Public Utilities Regulatory Authority

Equity in development

2012

Annual Report

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ACRONYMS

ACE	African Coast to Europe
AFUR	African Forum for Utility Regulation
ATU	African Telecommunications Union
C&MA	Construction and Maintenance Agreement
CTO	Commonwealth Telecommunications Organisation
D	Dalasi
DWR	Director of Water Resources
ECOWAS	Economic Community of West Africa States
ECOWAN	ECOWAS Regional backbone Wide Area Network
FM	Frequency Modulation
GAMCEL	Gambia Cellular Company
GAMTEL	Gambia Telecommunications Company
GDP	Gross Domestic Product
GEG	Global Electric Group
GMA	Gambia Maritime Agency
GMDSS	Global Maritime Distress & Safety System
GOTG	Government of The Gambia
GPPA	Gambia Public Procurement Authority
GRA	Gambia Revenue Authority
GRTS	Gambia Radio and Television Services
GSM	Global System for Mobile Communications
IEC	International Electro-technical Committee
ICT	Information Communication Technologies
IDA	International Development Association
IDB	Islamic Development Bank
IP	Internet Protocol
IPP	Independent Power Producers
ISP	Internet Service Providers
IT	Information Technology
ITU	International Telecommunications Union
IXP	Internet Exchange Point
kV	Kilo-Volts
kWh	Kilowatt Hour
LGA	Local Government Authority
MMSI	Maritime Mobile Service Identity
MOE	Department of State for Energy
MOFEA	Department of State for Finance & Economic Affairs
MOICI	Ministry of information and communications infrastructure
NARUC	National Association of Regulatory Utility Commissioners
NAWEC	National Water and Electricity Company
PURA	Gambia Public Utilities Regulatory Authority
RE	Renewable Energy
VHF	Very high frequency
WARCIP	West African Regional Communication Infrastructure Project
WATRA	West African Telecommunications Regulatory Assembly
WDM	wavelength division multiplexing

INTRODUCTION

The Annual Report for 2012 is produced in line with PURA's obligation under the PURA Act 2001 to report on its activities annually for the preceding year. Following this convention this report charts the achievements of the Authority as well as documenting several challenges it faced as it executed it's mandate during the year 2012.

Part I - The Corporate Governance and Human Resources Review - provides an overview of the organisational structure of PURA and identifies the regulatory capacity and capability building activities focusing on staff training relevant for the sustained and long term development of the Authority as embarked upon during the year in review. This part of the report also identifies the challenges that need to be addressed in terms of governance and human resource development to facilitate the effective implementation of PURA's regulatory mandate as required under the 2001 Act.

Part II - Capacity Building Activities - gives a brief summary of the institution's efforts to train its staff both locally and internationally. Continuous professional development is a key part of PURA's strategy.

Part III - The Market Development Review - provides a detailed update on the activities of regulated utilities as well as providing an overview of their status during the course of the year.

Part IV - Consumer Affairs - focuses on cross-cutting regulatory interventions used by PURA to engage its domestic and external stakeholders. This year's review saw the directorate engage in myriad of our usual advocacy and educational activities

Part V- Legal and Compliance Review - highlights the impact and status of existing and impending legislation that empowers PURA by providing it with its legal basis to discharge its regulatory mandate. This part of the review also looks at the status of compliance of the regulated utilities in terms of their obligations under the regulatory process.

Part VI - Key regulatory activities embarked on by the Authority during the course of the year. This section highlights the main activities of the technical Department including monitoring activities in the electricity, telecommunication and water sectors.

Part VII - and final part of the report provides **an outlook for 2013 and beyond vis-a-vis** the sectors being regulated.

Part VIII - The Financial Review - looks at the financial status of the Authority during 2012. It highlights the incomes received against budgeted income and overall performance as regards PURA's financial operations during the year in review.

CHAIRMAN'S MESSAGE

2012 has been a strong year for PURA, consolidating and building on its laudable performance from the previous year. The institution's performance affirmed the Board and Management's focused vision beyond the horizon, anchored on a sound footing in its regulatory mandate, enabling the Authority to diligently execute its charter and ensuring operational excellence of the Public Utilities sector.

Indeed, this year, PURA remained steadfast and relentless in its stakeholder relationship management, thanks to our reinforced operational capability in our consumer query solving approach and methodology. This advanced problem solving matrix enables PURA Management and Board Directors to be prompt and effective in finding solutions to the incessant problems and challenges that frequently emerge in this ever changing face of the global economy that has, in the recent past, experienced significant down-turns in global wealth creation and growth. This has cause economic operators and institutions to safeguard against the tsunami of economic regression for their continued survival and maintenance of operational efficiency to achieve their targets. The Authority therefore reinforced its consultation mechanism with regulated institutions in any emergent issues in the process of formulating and issuing regulatory guidelines, advices or instructions. This stance enabled the Authority in collaboration with The West African Regional Communications Infrastructure Project (WARCIP) to organise a 3-day training program on Conflict and Dispute Resolution Skills in order to strengthen and increase staff capacity in this area, as an effective alternative to the formal adjudication process.

The Authority also made good progress in the regulated sectors such as in the Telecoms/ICT industry where PURA, in 2012, embarked on a Nationwide SIM Card Registration Campaign with all mobile phone operators in the country, to ensure that all mobile phone lines in the country are registered as required and in line with global best practice. With coordinated efforts, the industry has seen a surge in investment in all areas of the industry, due mainly to the introduction of 3G services and 4G networks by operators and ISPs with a slight increase in fixed line subscriptions country wide.

The Board and Management have also not reneged on its responsibility to consumers, the bulwark of the success and wealth of the institution. In this respect, the Board and PURA Management provide constant support to the general public in line with the Authority's corporate social responsibility.

In brief, we have provided assistance to consumer advocacy groups, community organizations, and religious groups in activities relating to spiritual, social and national developments, including advocacy.

The year in review saw PURA maintain a strong and consistent presence and made remarkable contributions to the Electricity/Water sector. The Authority worked with stakeholders with the unalloyed support of government in various areas like tariffs setting and awareness campaigns, among others, whilst the industry has also witnessed an increase in its customer base as NAWEC stepped up its quality assurance and embarked on extending the tentacles of its operation in the West Coast Region and other areas.

The Authority is also playing a remarkable role in increasing Water Quality and supply and provides assistance to the Water Resources Directorate in its monitoring exercise.

The Board wishes to record its recognition and lauds the intellectual capital vested in PURA, being the key asset of the institution. For stability and continuity, the Board therefore takes all necessary measures to nurture and maintain the professionalism

Thus, the PURA Board and Management takes staff training and career development seriously, with professional staff attending important meetings, workshops and trainings related to the regulated sectors in bid to prepare them for emerging technologies as well as efficiently tackling current issues at hand.

The year in review saw the Authority make remarkable progress in addressing consumer complaints, in collaboration with the sector players, with more consumers being served compared to 2011.

The Authority, however, face some challenges, which is a source of concern for the Board, that in spite of Management's continuous efforts, some regulated companies still owe the institution huge amounts of regulatory fee arrears, which limits our timely interventions in various areas.

In addition, the Authority continuously worked in consultation with stakeholders in the energy industry to address the emerging energy needs of the country.

Looking Forward:

The Authority acknowledges that with the landing of the Africa Cable Europe (ACE) Cable in the country, the broadband penetration for more data transmission and even voice is a potential possibility in the near future as we live in the world of convergence.

The Authority is also looking towards national energy policy that promotes generation fuel diversify to exploit the potentials of solar and wind energy resources, because as new technologies emerge the Board and Management are aware of team spirit that prevails and pledge solemnly to maintain this exceptionally high level of professionalism and expertise that has earned the authority respect and recognition in the global regulatory fraternity. Accordingly, professional and continuing training possibilities for PURA staff will remain a key focus of the Board of Directors, in a bid to ensure consistency and efficiency in the discharge of the Authority's mandate.

On a final note, it would be obvious to state that our unique values and culture at PURA are at the heart of our core success and this remains to be our strength as team work plays a very vital role in our success. I personally wish to extend my heartfelt gratitude to my well articulated, willing and ever committed colleagues at the Board, as well as the Management and staff of PURA who implement without fear or favor, the nitty-gritty of our policies and decisions and translate them into the efficient and successful operations we all bear witness to today.

On a final note PURA Board & Management wish to recognize and acknowledge the exemplary achievement of the leadership in no other than His Excellency Sheikh Professor Dr. Alhaji Yahya A.J.J. Jammeh, in ensuring a stable and predictable economic environment, making The Gambia an attractive location of first choice for doing business.

Thank you and have an amazing 2013, together we can make it!!!!

BOARD OF DIRECTORS

DODOU BAMMY JAGNE
Chairman

EBRIMA CHAM
Non-Executive Board Member
March 2011 - Present

AMIE JOOF
Non-Executive Board Member
February 2008 - Present

MOD K SECKA
Permanent Secretary MoFEA
(Ex - officio Member)

ABDOULIE JOBE
Director General
March 2011 - Present

HEADS OF DEPARTMENT

ABDOULIE JOBE
Director General
March 2011 - Present

MALEH SAINE
Director of Technical Regulations
March 2007 - Present

ANSUMANA SANNEH
Director of Economic Regulation & Finance
May 2010 - Present

KELEPHA SAMBA
Director of Administration &
Human Resources/Board Secretary
May 2010 - Present

SOLO SIMA
Director of Consumer Affairs
January 2011 - Present

PART I:

CORPORATE GOVERNANCE & HUMAN RESOURCES REVIEW

PURA has a governing Board of Directors appointed by the President of the Republic of The Gambia on the recommendation of the Minister of Finance and Economic Affairs.

The Board currently comprises of a Chairperson, three other members, including an Ex-Officio member, and the Director General. The Director of Administration and Human Resources is the current Secretary to the Board.

The year under review saw PURA continue its strategic transition to enhance its performance and better serve the general Public.

2012 saw the recruitment of an Economist, IT Manager, a Legal, Licensing & Enforcement Manager, and an ICT Technical Advisor, to further build the capacity of the institution in order to carry out its duties more efficiently and effectively.

The staff strength was very stable in 2012 with one member of staff retiring from the institution.

Various training courses, workshops and conferences were attended by staff, which built tremendous capacity and has enabled the Authority to be able to regulate the sectors better, thus benefiting both the consumers and the operators.

In 2012, PURA organized a **3-day Conflict & Dispute Resolution Skills Training** so as to build effective relationships with stakeholders and to effectively resolve disputes and handle complaints in a constructive and sustainable manner. Staff from various stakeholders attended the training course at no cost to them.

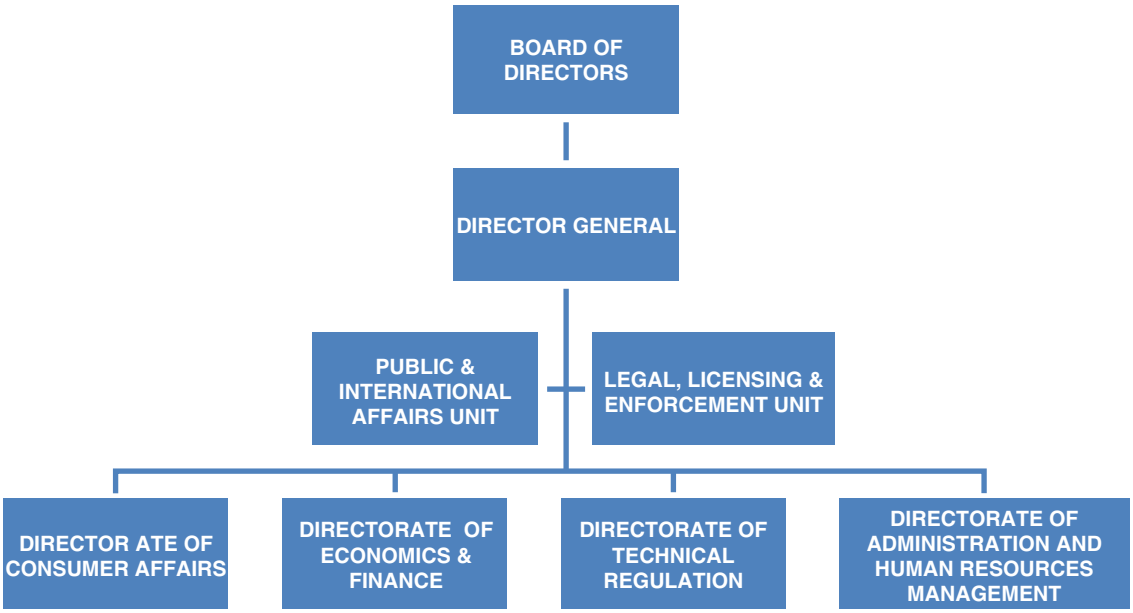

Figure 1: PURA Organisational Chart

Director General - is responsible for the day-to-day management of PURA with the objective of improving the efficiency with which public utility services are provided and increasing the percentage of consumers having access to our regulated services.

Technical Regulation Directorate - Advises the Director General on issues relevant to regulation of the telecommunications, electricity and water sectors. It also monitors compliance with regulations and service quality.

Economics & Finance Directorate - Advises the Director General on rates and tariffs; performs economic and financial analyses; conducts research and develops special studies and forecasts. It monitors investment programs as well as oversees and manages the budget and funds of the institution as well as drawing of the monthly management accounts and giving the necessary financial advice. The Directorate is also responsible for issuing invoices for regulatory fees and follow-up on payments.

Administration and Human Resource Directorate - Oversees personnel functions of the PURA; coordinates administrative activities, including procurement, staff welfare and motivation. It also handles the staff health insurance and social security schemes.

Consumer Affairs Directorate - Handles consumer complaints of utility services and reviews these with the relevant service providers. It monitors the level of consumer satisfaction with services provided by utilities and PURA itself. It evaluates the performance of the utilities against the respective quality of service standards and assists the management in publishing information relating to PURA's functions and activities.

Legal, Licensing and Enforcement Unit - Advises the Director General and management on all legal matters affecting the Authority. Draft all legal instruments such as licenses, contracts and regulations of the Authority.

PART II:

CAPACITY BUILDING ACTIVITIES

During the year under review, most of the professional staff attended training courses, study tours, workshops, seminars and conferences relating to their core operational areas in order to further build their capacity on emerging trends and new technologies.

Study Tour

The Public Utilities Regulatory Authority (PURA) of The Gambia in mid March this year, conducted a Peer-to-Peer Study Tour of the operations of the sister regulatory authority of Sierra Leone, the National Telecommunications Commission (NATCOM) and the Liberia Telecommunications Authority.

Just like The Gambia, these sister regulators are all beneficiaries of the World Bank as part of the West African Regional Communications Infrastructure Project and shall all be having a fibre cable landing under the African Europe Cable (ACE) in their respective countries for the first time.

The objective of the working visit was to explore the possibilities of establishing closer working ties between sister regulatory bodies to enhance the standardization of their regulatory processes within the spirit of the ECOWAS Supplemental Acts. By standardizing our processes as closely as possible, our regulatory and enforcement functions will allow smoother regulation especially across West Africa

The areas of interaction and knowledge-sharing included Licensing, Interconnection, Quality of Service (QoS) monitoring, Dispute Resolution, Consumer Protection, sharing experience, reports and documents on consultancy services done under the WARCIP project, Tariff Setting and Advertising Codes.

The peer to peer interface with the sister national regulatory authorities took the form of Power Point presentations. The presentations were followed by question-and-answer session, and closed-door discussions of peering departments.

As part of the itinerary, the team paid courtesy calls to the Ministers of Information and Communications, Media Commission, and their ACE Landing Station and facilities respectively.

The sister regulators expressed optimism that the visit were fruitful and would be a mutually beneficial future between our two entities.

The Chairman of the NATCOM made reference to the Memorandum of Understanding (MoU) signed between the two bodies in 2009, when NATCOM first visited PURA and disclosed that the study tour was a result of that instrument.

Figure 2: PURA Staff with NATCOM Chairman during their study tour

COMMONWEALTH TELECOMMUNICATIONS ORGANISATION CONFERENCE

As the focal person of the CTO, Director of Consumer Affairs (DCA) was nominated to attend the 52nd council meeting of the Commonwealth Telecommunications Organisation 52nd council meeting in Port Louis, Mauritius, from the 25th - 26th October 2012. The Forum brought together an impressive array of industry players that includes local ICT leaders as well as international firms. The theme of this forum was based on "Mobile Broadband for Deployment"

In the margins of the forum, on 24th October, the joint project by the International Telecommunications Union (ITU) and the Commonwealth Telecommunications Organization (CTO) introduced a pilot Child Online Protection in six African countries at a meeting attended by senior policy makers and regulatory heads, led by Hon. Tassarajen Pillay Chedumbrum, Minister of Information and Communication Technology of Mauritius.

It was earlier agreed by CTO and ITU to do a joint project to implement Child Online Protection in six African countries, the ITU who have a long standing experience in conducting and have been collecting data from all the countries concerned in the form of a survey, which incidentally, DCA was privileged in filing on behalf of PURA/Gambia in 2010/2011. As a result The Gambia was one of the countries who were nominated to be amongst the six selected countries.

At the launch of the initiative DCA therefore, represented The Gambia/PURA and in so doing gave a brief background as to what already prevails in The Gambia in relation to child online protection, as listed below. The said initiative was launched at a meeting led by Mr. Lasantha De Alwis, Corporate Secretary, (CTO) and Mr. Andrew Rugege, (ITU) Regional Director for Africa. The initiative was attended and launched by Hon. Tassarajen Pillay Chedumbrum Minister of Information and Communication Technology of Mauritius and representatives of the selected countries, who then finalized the implementation plan.

The implementation plan developed at the end of the meeting included an agreed process for all selected member countries to set-up a national consultative committee to include all stakeholders as a first step. This is to be followed by a country analysis of prevailing initiatives in offering child protection online in the selected countries.

In order to achieve this, it was further agreed that representatives at the meeting will facilitate this process. Therefore, the necessary work to realise this have started in earnest, and the following stakeholders have been co-opted into the taskforce:-

1. Office of The President
2. Child Protection Alliance
3. Department of Social Welfare
4. Ministry of Justice
5. Ministry of Youth and Sports
6. Ministry of Information and Communication Infrastructure
7. Ministry of Basic and Secondary Education
8. Gambia Police Force/Children's division
9. National Intelligence Agency
10. Consumer Advocacy Group (FGI)
11. Internet Technology Association Group
12. AFRICELL, Gambia Ltd.
13. GAMTEL
14. GAMCEL
15. COMIUM, Gambia Ltd.
16. QCELL, Gambia Ltd.
17. NETPAGE
18. UNIQUE Solutions
19. LANIX Solutions

Finally, it is worthy to note that the said initiative could yield a range of benefits for The Gambia, since the initiative have a range of sponsors to do with child protection online and otherwise. It is also our believe that engaging in this initiative may open funding doors for The Gambia to start putting together a Computer Emergency Response Team (CERT) which is a team that some selected member countries like Ghana, Nigeria, Sierra Leone and Kenya already have and operate a cyber security unit.

SIGTEL

Training workshop for the National Correspondents for Indicators (NCIs) for the Telecommunications Information Management System (SIGTEL)

Consumer Affairs Manager was nominated to attend the 3rd training workshop for the National Correspondents for Indicators (NCIs) for the Telecommunications Information Management System (SIGTEL) database organised by ECOWAS Commission. The event was held from 28th to 31st August 2012 at the Community Computer Centre (CCC) located at the Headquarters of the ECOWAS Bank for Investment and Development (EBID) in Lomé, Togo.

The objectives of the 3rd SIGTEL training workshop include the following:

- To address the validation and statistical analysis procedures of the harmonised ECOWAS indicators in line with ITU Telecoms/ICT indicators guidelines thereby serving as capacity building for the NCIs.
- To update the NCIs on new innovations in geospatial technology in respect to telecoms/ICT infrastructure data collection and management;
- To improve data collection in a proactive manner; and
- Participants

A total of fifteen (15) NCIs from 10 Member States participated in this training and they are:

- Benin, Burkina, **The Gambia**, Ghana, Guinea Bissau, Guinea Conakry, Niger, Nigeria, Ivory Coast, Togo

The SIGTEL training session saw further harmonization of the list of indicators with what ITU is currently requesting for in their Short and Long Questionnaires. The SIGTEL project sees the importance of synchronizing with the ITU which represents the telecoms industry on a global scale. Nonetheless, there is still the need to provide a separate data base specific to conditions within the West African Diaspora.

There was emphasis for NCIs to keep abreast with what ITU is doing with regards to the telecommunications indicators and to attend ITU indicator meetings to be able to contribute to the final list of indicators at this level.

NCIs were also encouraged to submit requested data on time to help the speedy buildup of the SIGTEL database and for the continuity of the project.

As the NCIs representing the Gambia, we believe that there should be harmonization between the data requested for the SIGTEL project and that currently being requested for in the Authority's Telecommunications Reporting Guidelines. It was observed that there duplication between some requests. For this reason, a note was included in the SIGTEL data template for operators to omit any information already included in their quarterly reports.

Taking into consideration that the Authority's Telecommunications Reporting Guidelines was adopted from ITU's Long and Short questionnaires and the fact that ECOWAS (SIGTEL) has synchronized with the ITU, the data requests for the two should be more or less the same.

NARUC PARTNERSHIP

PEER TO PEER VISIT AT WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

The National Association of Regulatory Utility Commissioners (NARUC) is a non-profit organization founded in 1889 and representing the interest of regulatory bodies in all the 50 US states. Like The Gambia, most of the US States have multi-sector regulatory agencies that regulate a diversity of sectors including energy, telecommunications, water, and transportation. NARUC is based in the US capital, Washington DC.

Through its international programme, NARUC also endeavours to foster exchanges between US regulators and other regulators from Africa, Europe and Asia to share best practices, exchange ideas and building capacity.

Most of all their international programmes are funded by the USAID.

Following the success of the 2011 initiatives, particularly the strong participation of PURA in past programmes, two new programmes were launched in 2012.

a. National Policy dialogue Forums and
B. Peer-to Peer Capacity Building

In February 2012, NARUC co-sponsored at the first National Forum on Renewable Energy with PURA. It was the first forum in which grid connected renewable energy was debated at a high level. The meeting was opened by he Hon. Minister of Petroleum representing H.E The President of The Gambia. The forum had participants from policy makers, civil society and also from multilateral agencies. NARUC provided two experts from Wisconsin and the California Public Service Commissions.

The main outcome of the forum was mainly centred on The Gambia building the regulatory and legal framework for Renewable Energy including Power Purchase agreements and Guidelines for Interconnection. The Ministry of Energy, which had funding from GEF/EU also pledge to complete the work in these vein by the end of the year.

Regulatory Agencies from Ghana and Cape Verde were also invited to the Forum and we were exposed to the different works they were doing.

In September again PURA received two experts from NARUC this time from the states of Vermont and Wisconsin. The two experts spent a week in PURA with other stakeholders from the Office of the President, GIEPA and NAWEC. Together we spent a week exchanging ideas and sharing experiences in the PURA conference room. This was a opportunity for frank discussions and it was highly appreciated by al the stakeholders.

Later in November, another PURA staff benefited from a week long internship in another regulatory agency, the Washington Utilities and Transportation Commission in the US state of Washington. This opportunity was arranged with the cordial coordination of NARUC and focused mainly on consumer issues.

The overall peer visit was a success and every meeting, lecture and tutorial had met expectations. The whole experience has been fruitful and exposed participants to a whole new perspective on regulation in general.

SOLAR SYSTEM DESIGN TRAINING IN TUJERENG

Figure 3: Participants at the FANDEMA Women's Training Center in Tujereng

The training which took place from the 15th October 2012 to Saturday 20th October 2012 was developed and organised by Mbollo Association and carried out at the FANDEMA Women's training centre in Tujereng. FANDEMA is a word in Mandinka meaning help yourself. It is a local and community development project for women with the aim to empower and upgrade the life standard of women by strengthening their productive capacities and abilities through the training for entrepreneurship in Tujereng.

FANDEMA is supported by a standalone Solar System which includes a total of 6,500 watts of Solar Panels and a Wind Turbine rated 1, 200 watts. The battery bank is 3, 050 Ampere hours(Ah). It is made up of 2 banks of 12 x 2 volt cells connected in series to give 24 volts from each bank. The banks are connected in series to give 48 volts which feeds the Sunny Island Inverter. All the energy needs of the training centre are supplied by the Hybrid system which is also capable of linking to a stand by generator in the event the Solar irradiation falls below average, the generator can be used to charge the batteries. However Fandema's PV system has three days of autonomy included in the design.

Mbollo association's FANDEMA Project cost a total of Euros 200,000.00 for the stand alone PV system. 30% of this was funded by the Global Environmental Facility (GEF) since the project is a renewable energy project. The rest of the project was funded by European partners to the project. After building the stand alone system, Mbollo carried out a capacity building workshop for stakeholders and technicians to enrich them with knowledge in the area of design and Installation of PV systems.

Figure 4: Trainer Oliver from Spain with Engineers from PURA, Gam. Electrical & NAWEC

PURA's Senior Electricity Engineer as well as other Engineers and technicians from NAWEC and private engineering companies such as Gamsolar were able to benefit from the training programme.

Participants were given a quick design procedure for Solar system sizing which has the following steps:

1. **ENERGY REQUIRED**: Calculate the Daily energy required in Watt hours (Wh). This is the product of the power of the appliance in watts times the number of hours it is used a day. (The meter model can be used to estimate this for your home appliances)
2. **PANEL WATTS**: Obtain the solar panels total wattage called peak watts by dividing the daily energy required by 3
3. **CHARGE CONTROLLER**: Divide the Solar Peak Watts by the battery voltage. This will give the controllers maximum current in Amps.
4. **BATTERY SIZE**: Multiply the daily energy required by 3.75 and divide by the battery voltage. (2 days autonomy plus a factor of 1.75 for losses)
5. **INVERTER SIZE**: Add total power needed by all the appliances and remove 25%.

Each of the participants received a certificate from Mbollo Association for participation in the above training programme

SUMMARY OF KEY PROGRAMS ATTENDED BY STAFF ARE SHOWN IN THE TABLE BELOW:

Department / Unit	Capacity Building & Training	Funded by	Venue
Licensing & Enforcement Unit	Peer to Peer Visit / Networking	WARCIP	Freetown, Sierra Leone
Department of HR & Administration	CTO HR4ICT Conference 2012	PURA	London, UK
	Executive Seminar & Leisure Retreat	PURA	Saly Mbour, Senegal
	ITU Global Forum on Human Capacity Development	ITU / PURA	Cape Town, South Africa
Department of Economics & Finance	Executive Seminar & Leisure Retreat	PURA	Saly Mbour, Senegal
	Workshop on Guidelines on Access to Submarine Cables	ITU	Kigali, Rwanda
	Peer to Peer Visit / Networking	WARCIP	Freetown, Sierra Leone
	AIKP Data Validation Workshop	ADB / PURA	Tunis
	ECOWAS Workshop on Trade in Services	ECOWAS	Accra, Ghana
	Training on Interconnection Masterclass	WARCIP	London, UK
	Pricing & Tariff Design for Electricity & Water Sectors	PURA	Bamako, Mali
	12th Executive Committee Meeting of WATRA	PURA	Abuja, Nigeria
Department of Consumer Affairs	Emerging Regulatory Challenges & Opportunities	PURA	Colombo, Sri Lanka
	Peer to Peer Visit / Networking	WARCIP	Freetown, Sierra Leone
	Management of Regulatory Affairs Masterclass	WARCIP	London, UK
	Executive Seminar & Leisure Retreat	PURA	Saly Mbour, Senegal
	3rd Telecommunication Information Management System (SIGTEL) Training Workshop for National Correspondents for Indicators (NCIs)	ECOWAS	Lome, TOGO
	Job Shadow at Washington Utilities & Transportation Commission	PURA	Washington, USA

Department of Technical Regulation	13th Forum on Telecoms/ICT Regulation & Partnership in Africa (FTRA 2012)	PURA	Gabon
	Capacity Building Workshop on Guidelines and Toolkit on Universal Service & Access	ITC	Gabon
	First Meeting of ERERA's Consultative Committee	ERERA	Accra, Ghana
	Workshop on National Renewable Energy Policy & Incentive Schemes & Global energy Transformation Pathways and Policy Tools	ECREEE	Praia, Cape Verde
	Establishment of a working group to start activities and projects of ERERA.	ERERA	Accra, Ghana
	Opening Meeting & Analysis of ERERA's Development Studies	ERERA	Accra, Ghana
	ERERA's Consultative Committee Meeting of Regulators and Operators	ERERA	Accra, Ghana
	Peer to Peer Visit / Networking	WARCIP	Freetown, Sierra Leone
	ITU Study Group 15 meeting	ITU/PURA	Geneva, Switzerland
	World Telecommunication Standardization Assembly (WTSA-12)	ITU	Dubai, UAE
	Training on Interconnection Masterclass	WARCIP	London, UK
	World Radiocommunication Conference	PURA	Geneva, Switzerland
	2nd Digital Migration and Spectrum Policy Summit	WARCIP	Accra, Ghana
	Analogue to Digital Migration Update	ITU	Nairobi, Kenya
	ITU Workshop on Practical Measurement of QoS/QoE Parameters for Regulatory Compliance	ITU / PURA	Cotonou, Benin
	3rd Telecommunication Information Management System (SIGTEL) Training Workshop for National Correspondents for Indicators (NCIs)	ECOWAS	Lome, Togo
	Training on Telecoms Regulations Essentials	WARCIP	London, UK
	Pricing & Tariff Design for Electricity & Water Sectors	PURA	Bamako, Mali
	Regional Workshop for Pilot Study on Performance Analysis of Water Resources Management in West African Countries	Department of Water Resources	Lome, Togo

In addition to the above, professional staff attended key meetings, workshops and conferences relating to the regulated sectors to address emerging trends and technologies, as well as share best practices.

Table 1: International Programmes attended by PURA staff during 2012

PART III:

MARKET DEVELOPMENT REVIEW

Macroeconomic Performance.

The year 2012 marked the commencement of The Gambia's new development strategy (PAGE, 2012-2015) aimed at accelerating and sustaining economic growth while creating employment opportunities for Gambians. Real GDP for the year 2012 stood at 3.9% deviating from the three year average of about 6%. Growth during the year was significantly hampered by the drought of 2012 which resulted in agricultural production dropping by 60%.

The industrial sector, which includes Mining and Quarrying, Manufacturing, Electricity, Gas and Water Supply, and Construction, grew by 3.9 per cent in 2011 compared to a growth of 4.7 per cent in 2010, representing a decline of 0.8 per cent. The drop in the sector is largely attributable to the drop in manufacturing and construction activities during the period. The regulated sectors of Electricity, gas and Water Supply activities recorded a revised growth of 1.4 per cent in 2011 against a projected growth of 5.2 per cent in 2012.

Transport and the regulated sector of Communications after an impressive growth period in 2010 and 2011 is expected to decline to 5.0% in 2012. The sector however still remains a key driver of economic growth.

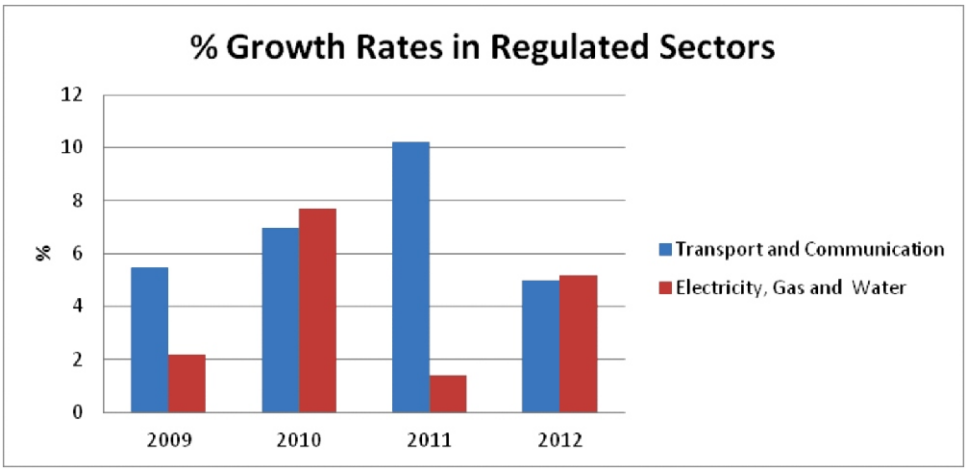

Figure 5: Growth rates in regulated sectors 2009 - 2012

The Telecommunications Market

The Gambia's communications industry comprises of one fixed Line Operator, Four Mobile Network Operators and five Internet Service Providers. GAMTEL serves as the fixed line operator coupled with GAMCEL, AFRICELL, COMIUM and QCELL as the mobile Operators. GAMTEL as the fixed line offers both telephone and Internet service while the mobile operators offer voice and data services. On Internet Service Provision, there are five service providers namely; GAMTEL, UNIQUE SOLUTIONS, LANIX, NETPAGE and QCELL.

Investments

Investments in the telecommunications sector rebounded considerably in 2012. Total investments reported during the period stood at D521 million representing a significant increase from the D93 million investment figures reported in 2011. This increase follows closely with the increased provision of data services alongside voice in the mobile market. During the year, we witnessed the launch of 3G services by two operators, namely; AFRICELL and GAMCEL corresponding to the high investment figures by both institutions as shown in Table 6 below.

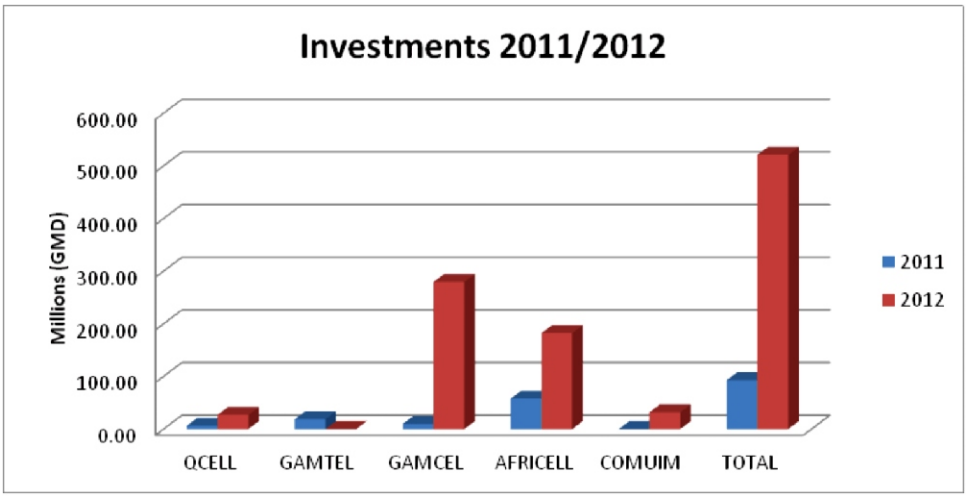

Figure 6: Investments in the telecoms sector 2011 - 2012

Employment

Employees in the sector during the period under review totalled 2,488. When compared to 2011 employment figures, a modest 2.5% increase in employment figures were recorded. Continuing with trends in previous years, GAMTEL continue to be the highest employers in the sector accounting for 49% of total sector employees. AFRICELL, GAMCEL, QCELL and COMIUM represent 23%, 14%, 9% and 5% of total employees respectively.

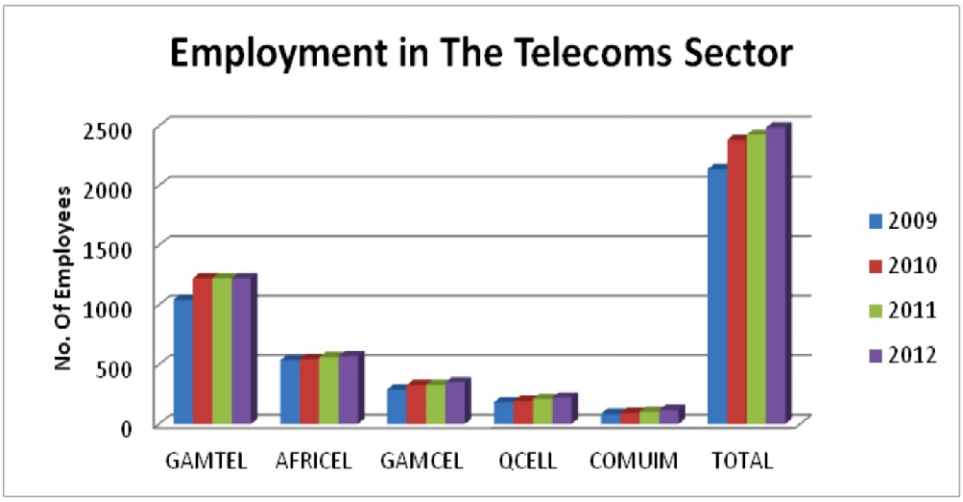

Figure 7: Employment figures in the telecoms sector 2009 - 2012

Subscribers

Total Voice subscribers as at year end stood at 1,900,936 against 2011 figures of 1,729,237, representing a 10% growth in the total number of voice subscribers. Of these 1,522,334 are reported as active subscribers indicating an impressive active subscriber base of 80%. As is the case in developing countries, over 99% of total subscribers in the market are prepaid voice customers.

We are witnessing slight rebound in fixed line subscriptions as denoted by the 27% increase in 2012 as compared to 2011. As depicted below, AFRICELL continues to have the largest market share in terms of subscriber base with about 46% of total GSM subscribers. GAMCEL, COMIUM and QCELL represent 31%, 18%, 5% respectively.

Operator	Number of Subscribers				
	2008	2009	2010	2011	2012
GAMTEL	48,560	48,541	48,777	50,450	64,196
GAMCEL	285,761	339,946	365,385	433,440	584,407
AFRICELL	579,969	662,279	730,919	803,312	880,167
COMIUM	249,000	275,000	350,000	350,000	335,646
QCELL	N/A	35,649	32,045	47,540	100,716

Table 2: Fixed and Mobile subscribers in the Gambia 2012

Following the introduction of data services by AFRICELL in addition to the existing data facilities provided by QCELL and COMIUM, there has been a steady uptake of data services by mobile subscribers. At the end of 2012, there were a total of 127,809 data subscribers for 2.5G GPRS and 3G data services. The bulk of these subscribers are on GPRS and this constitutes 83% of data subscribers. The remaining 17% are 3G (high-speed) subscribers. The impending launch of 3G services by GAMCEL is further expected to stir the data market as operators shift from their traditional voice platforms and actively compete in the data market.

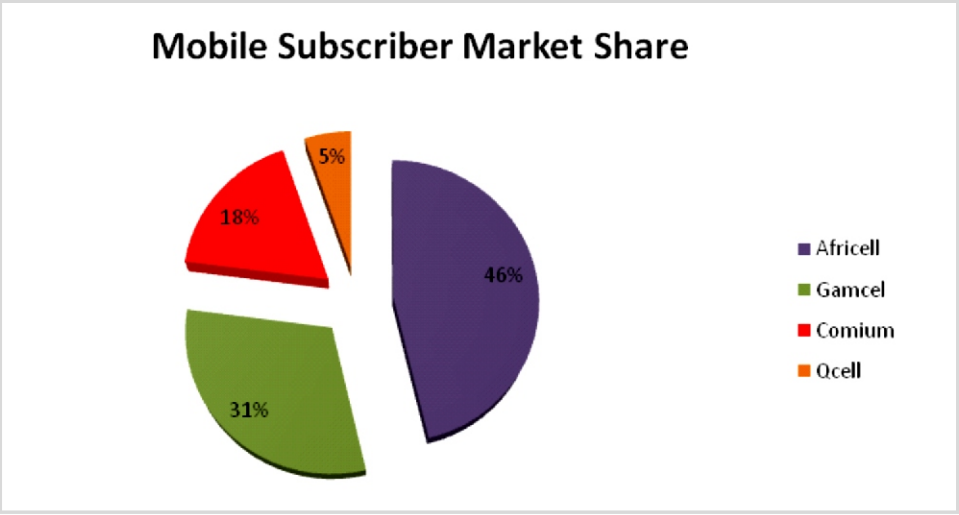

Figure 8: Market share by operator

Telephone penetration levels (teledensity) measured as the percentage of the population owning a fixed and or mobile service continues to increase although at a slower growth rate. Growth in penetration levels is wholly influenced by the proliferation of mobile technology in the country from the last decade, this is evidenced by the graph below with mobile penetration following almost the same growth pattern as total penetration.

Currently, penetration levels in The Gambia stand at 105.7%. As per ITU statistics, fixed and mobile penetration in Africa stands at 1.4% and 59.8% respectively in 2012. As can be seen and consistent with worldwide trends, growth in fixed line networks has slowed considerably with penetration levels being almost constant for over a decade. GAMTEL have made strides in rehabilitating inactive lines during the year and as a result, we have witnessed a slight increase in subscriber figures on the fixed network.

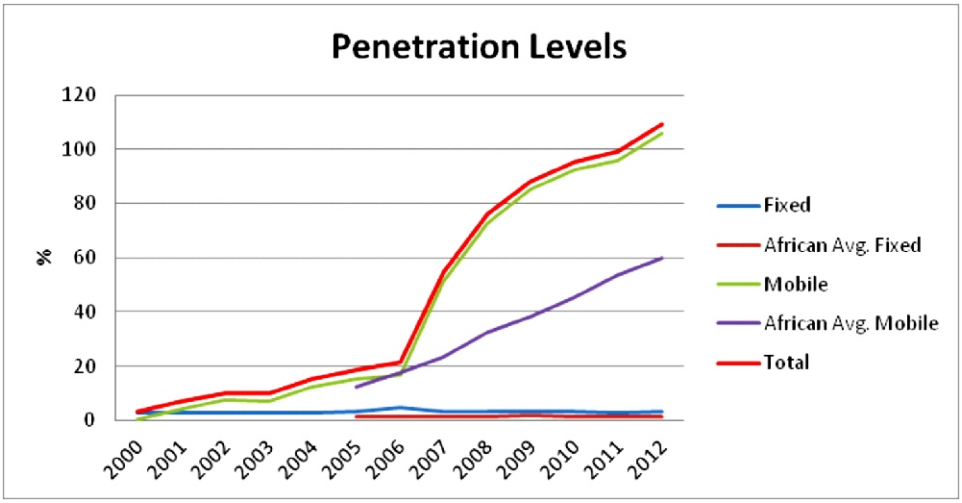

Figure 9: Penetration levels in The Gambia compared to Africa

Traffic Volumes (Voice)

Total Voice traffic in 2012 was equivalent to 1.63 billion minutes. Of this figure, 86% of total calls were local, 13% International and less than 1% were roaming minutes. A 0.6% increase was recorded from the total reported in 2011. Although subscriber figures have been on a steady increase, traffic figures have remained almost the same indicating that the Average Minute of Use per call is on the decrease.

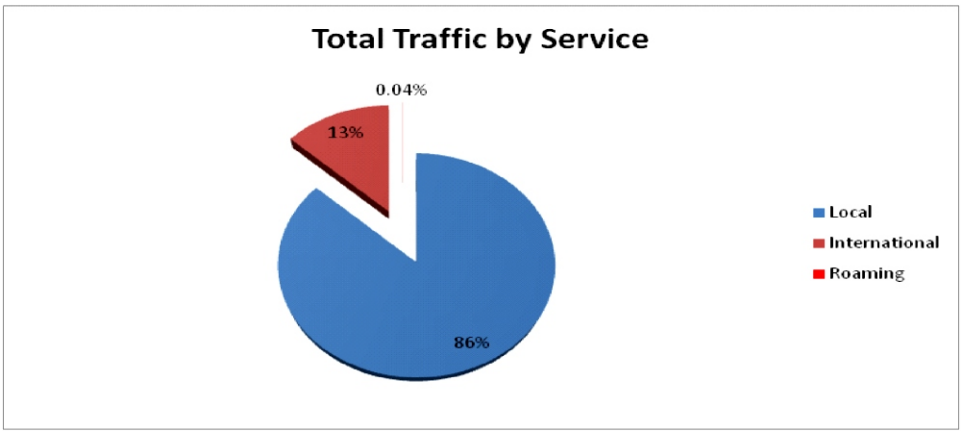

Figure 10: Share of total traffic

By virtue of their high volume of On-Net traffic registered on its network, COMIUM leads the market in terms of total traffic. COMIUM offers a variety of promotional offerings enticing its subscribers to make On-Net calls, most notably, the Free Bonanza package. GAMCEL through the high volume of International calls terminated on its network accounted for 29% of voice traffic. AFRICELL, QCELL and GAMTEL accounted for 25%, 12% and 2% respectively.

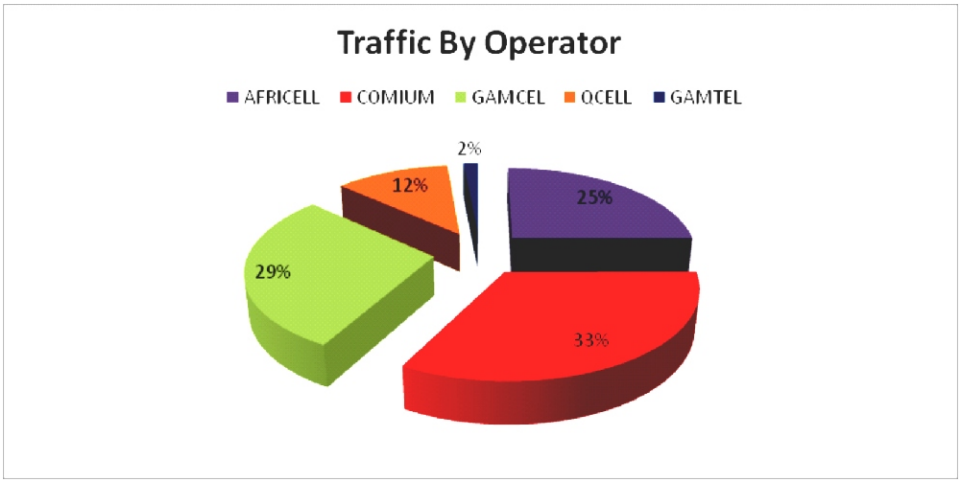

Figure 11: Percentage share of traffic by operator

International Traffic

The graph below denotes international traffic volumes from 2009 to 2012. As can be seen, traffic volumes for Incoming International calls have been on a steady decrease over the past three years whilst trends for International Outgoing calls have been almost constant over the years. The decline in traffic could be attributed to the wide availability of competing alternatives over data networks recently, such as Skype, Viber etc. and also the high termination rate for international incoming calls.

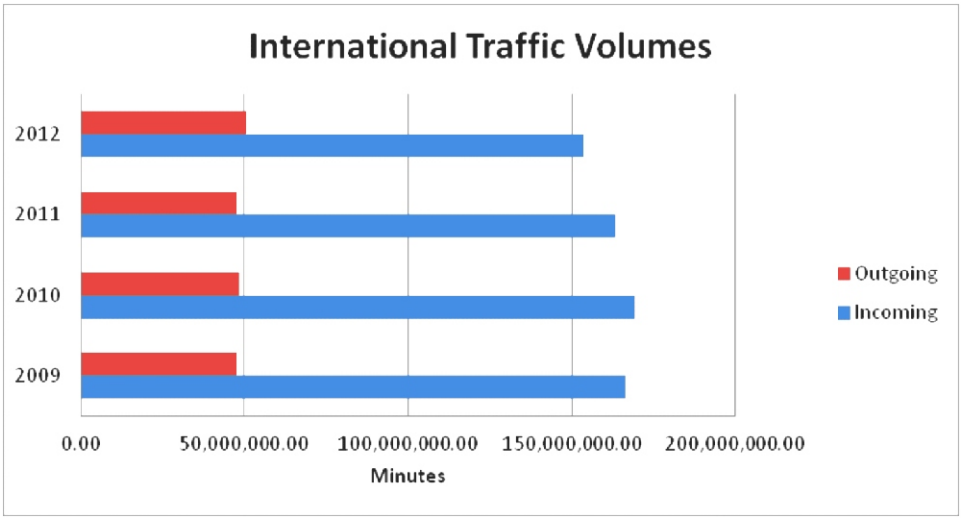

Figure 12: International Incoming and outgoing traffic volumes

Tariffs

Competition in the voice market continues to be strong, over the past few years, tariffs have remained almost constant. On-Net calls on the fixed network remain the cheapest at 73b/min. The average per minute call for on-net and off-net mobile were D2.76/min and D2.86/min respectively.

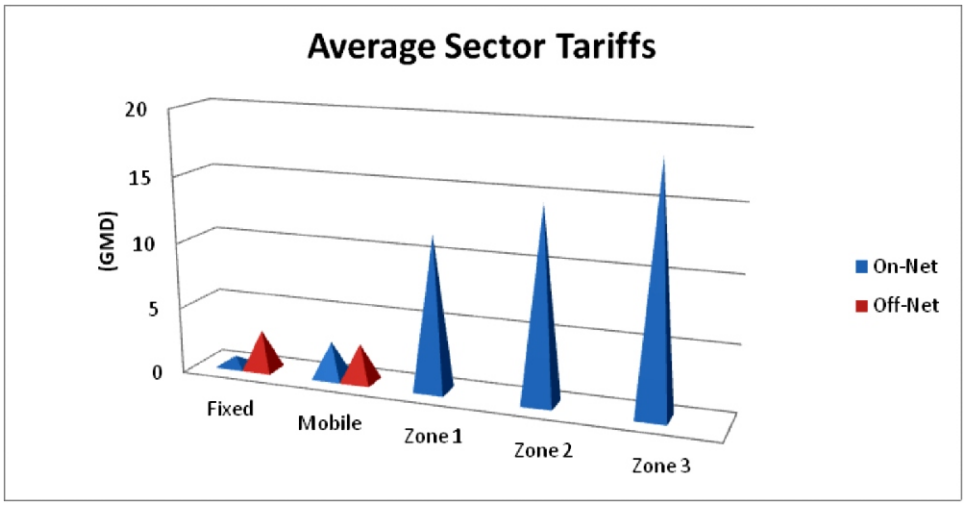

Figure 13: Average sector tariffs for telecoms. Fixed, mobile and International

On the international front, new charges were again effected in Zone 1 (Senegal) calls. In 2011, a notification was received from Senegal indicating that termination charges for calling into Senegal would be increased. As a result, PURA took the necessary steps to ensure that this termination rate increase was reflected in calls to Senegal.

Following this increase, correspondences were then received again from Senegal in the 2nd Quarter of 2012 informing that the decree to increase call termination charges has been repealed. PURA being cognizant of such changes asked operators to reverse their call charges to Senegal to be indicative of pre-2011 rates.

In addition, the authority also received a re-classification request from GAMTEL requesting for the reclassification of calls to Senegal's TIGO network. The request was as a result of TIGO increasing their termination charges. PURA reviewed this request thoroughly by conducting the necessary analysis. It was however determined that GAMTEL were still in a profit-making position in the said zone thus necessitating the continuation of status quo.

A fundamental pillar of regulation is to mimic competition in markets where their is limited or no competition. It is in that regard that PURA regulates and sets price floors on International calls as there is still a monopoly in operating the international gateway. PURA sets these prices taking into account termination charges, taxes and levies and sets a minimum price floor for all operators.

This is mainly done to avoid anti-competitive pricing by operators. Following the setting of the price floor, operators are at a liberty to set their own individual prices through competitive market forces.

The Internet Market

Annual Investment reported in the Internet Market amounted to D27.7 million. This decline follows trends observed in 2011 where a 69% decrease was recorded in investments. A 57% decrease was recorded this year when compared to figures obtained from last year.

Of the total reported, Unique Solutions accounted for 61% of total investments, this figure relates to their investment in a brand new 4G network. NETPAGE and QCELL accounted for 22% and 17% respectively.

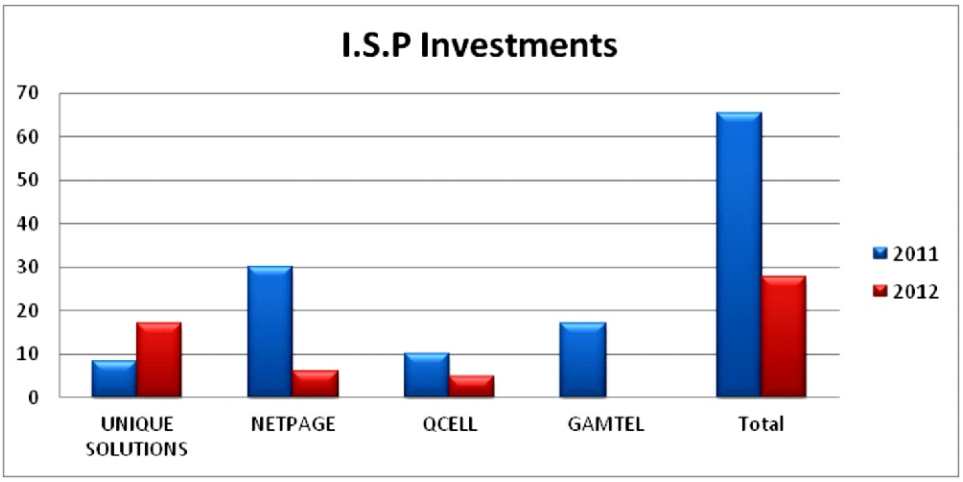

Figure 14: Investments by ISPs 2011 and 2012

Subscribers

GAMTEL continue to lead the pace in terms of subscriptions in the Internet Market. A total of 1,375 subscribers were reported by GAMTEL, of this total; 441 or 32% are broadband subscribers and the remaining are dial-up.

Following the launch of their new 4G networks, impressive increases in subscriber numbers were witnessed from NETPAGE and Unique Solutions with their subscriber numbers increasing by 131% and 66% respectively. It is hoped that with the launch of the ACE cable during the fourth quarter of 2012, The Gambia would witness a continual increase in broadband penetration.

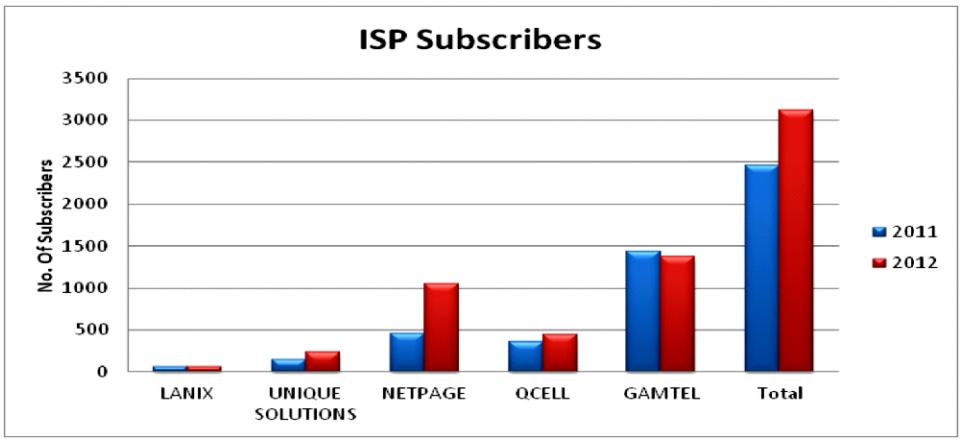

Figure 15: ISP subscribers 2011 and 2012

THE ELECTRICITY, WATER AND SEWERAGE MARKETS

The availability of a reliable and affordable Electricity supply to the Socioeconomic Development of any nation cannot be overemphasised. As such in The Gambia just like many African countries continues to face serious challenges to meet the energy needs of industry as well as those of domestic purposes. In The Gambia, the entity charged with the responsibility of meeting our energy needs is The National Water and Electricity Company (NAWEC) which is a Government owned utility.

The company (NAWEC) owns and operates the generation, transmission and distribution facilities across the length and breadth of the country via an extensive grid in the Greater Banjul Area and a series of isolated mini grids in the provincial towns and villages.

The company is operated as a vertically integrated entity but Government in its quest to meet the ever increasing energy needs of the country decided to allow private participation in the Electricity generation by allowing multiple producers through IPPs. This development has paid dividends giving rise to the Brikama IPP which to date is the only significant partner in the generation stream. The IPP just like NAWEC continues to generate electricity using fossil fuels whose prices continue to remain erratic over the years.

In order to reduce our dependence on fossils fuels the Government through the Ministry of Energy and the Regulatory Authority came up with new policies and programmes with a view to diversify the generation mix. Such policies include the promotion of renewable energy resources such as solar and wind. Apart from the 2009 inaugurated 150kW Batukunku wind power project, the country can now boast of another project of two of 450kW wind mills by GAMWIND Company located in fishing Village of Tanji. The introduction of these projects shows the potential of renewable energy and with adoption of the drafted renewable energy law later in 2013 there is enormous hope that such projects will continue to be commissioned.

Studies have shown that the country has high Solar and Wind generated energy potentials and one sure way of addressing the high electricity tariffs is to harness the renewable energy potential of the country. The results of the 2012 Annual Electricity and Water tariff review is enough testimony and all efforts should be geared towards the adoption of large scale renewable energy technologies.

The table below shows the increasing trends of the electricity tariffs over the years to date and a close look at the trend further attest to the fact that it is high time renewable sources are exploited.

Customer Class	KWH Consumption	2008 Tariff	PURA's Determined Rates for 2010	Ministry's Determined Rates for 2010	PURA's Determined Rates for 2011	New Consumption Band 2012 (kWh)	2012 Determined rates
Domestic Credit Meters	0-40	2.02	2.02	1.92	2.24	0-300	9.10
	41-600	6.83	6.50	6.20	7.20	301-600	9.45
	601-1000	7.58	7.00	6.65	7.75	601-1000	9.70
	Above 1000	9.07	8.00	7.60	8.40	Above 1000	10.40
Cash Power	Flat rate	6.76	6.50	6.20	7.20		9.10
Commercial		9.43	8.00	7.20	8.60		9.70
Hotel/ Industries		10.43	8.50	7.65	8.95		10.40
Agriculture		9.07	8.00	7.20	8.00		9.10
Area Councils		9.07	8.00	7.20	8.70		9.70
Central Government		9.07	8.00	7.20	8.70		9.70

Table 3: Evolution of Tariffs for electricity services from 2008 2011.

A closer look at the table indicates a 26% increase over the 2011 rates for Domestic Consumers which is a very significant leap taking into consideration the socioeconomic status of the populace. Other consumer categories also received increment ranging from 11% to 16%.

This trend is unsustainable and efforts should be geared towards addressing the ever increasing rates year in year out through harnessing the existing renewable energy potential in the Country.

Electricity Generation

During the year under review, the sector did not see any significant addition to the generation capacity of the company. The only addition is the inauguration of the two 450 kVA wind plants at the Tangi Wind Farm. This project called the GAMWIND just like the Brikama IPP has a Power Purchase Agreement with NAWEC which allows the company to generate electricity and sell it to NAWEC.

The Tables below show the generation plant across the length and breadth of the country.

NAWEC POWER STATIONS IN KOTU AND BRIKAMA

Location/Unit	Make	Installed Year	Installed Capacity (MW)	Available Capacity (MW)
KPS - G1	Mirrless	1981	3.0	0
KPS - G2	Mirrless	1981	3.0	2.5
KPS - G3	Mirrless	1997	3.4	2.5
KPS - G4	Deutz	2001	6.4	5.5
KPS - G6	MAN B&W	1990	6.4	5.5
KPS - G7	Deutz	2001	6.4	5.5
KPS - G8	Deutz	2001	6.4	5.5
KPS - G9	Deutz	2009	6.4	5.5
Total			**41.4**	**35**

Table 4: List of engines at Kotu Power Station.

Location/Unit	Make	Installed Year	Installed Capacity (MW)	Available Capacity (MW)
BRK (NAWEC)	Wartsila	2011	9.0	8.3
Total			**9.0**	**8.3**
Total for NAWEC			**50.4**	**43.3**

Table 5: List of engines of at Brikama Power station owned by NAWEC

INDEPENDENT POWER PRODUCER (IPP) BRIKAMA POWER STATION

Location/Unit	Make	Installed Year	Installed Capacity (MW)	Available Capacity (MW)
BRK - G1	Deutz	2006	6.4	0
BRK - G2	Deutz	2006	6.4	5.5
BRK - G3	Deutz	2007	6.4	5.5
BRK - G4	Deutz	2007	6.4	5.5
Total			**25.6**	**16.5**

Table 6: List of engines of at Brikama Power station owned by the IPP

NAWEC POWER STATIONS IN THE PROVINCES

Location/Unit	Installed Year	Installed Capacity (kW)	Available Capacity (kW)
Essau	2006	460	400
Farafenni	2006	1400	1360
Mansa Konko	2006	1000	940
Kerewan	2006	220	180
Kaur	2006	180	120
Bansang	2006	600	540
Basse Mobile Unit		450	410
Basse Santo Su	2006	1400	1360
Total		**5710**	**5310**

Table 7: List of Power station in the Provinces owned by NAWEC

Transmission and Distribution

During the year under review, the implementation of the Venezuela project which commenced in 2011 continued as well as the extension of the low voltage network increasing access to electricity to several new communities

The existing power lines are being upgraded and while transmission lines are being extended to new areas in the Greater Banjul Area. In the West Coast Region, construction work on the transmission lines from Kartong to Kalagi went on with some villages connected.

NAWEC had a total electricity customer base of 110,782 in different geographic zones grouped in seven categories at the end of 2012 as shown in the table below.

CATEGORY AND NUMBER OF CUSTOMERS

CATEGORY	2007	2008	2009	2010	2011	2012
Domestic	48,517	50,390	53,898	54,465	24,767	19,585
Commercial (NGO'S, Schools, etc)	6,159	6,177	6,262	6,038	5,118	4,408
Major Consumers (Industries, Banks, S/markets etc)	598	636	683	689	463	451
Agriculture		54	54	57	5	14
Local Government Authorities	1,084	1,093	1,160	1,201	1,214	194
Central Government	1,409	1,415	1,430	1,453		1059
Prepayment Customers	17,212	26,584	40,396	49,942	67,763	85,071
TOTAL	**75,034**	**86,349**	**103,883**	**113,845**	**98,116**	**110782**

Table 8: Number of customers per customer category (2007-2012)

ITEMS	2007	2008	2009	2010	2011	2012
Customer population	75,034	86,349	103,883	113,845	98,116	110782
Sales MWh-Credit	118,924.7	115,776	96,397	106,594	80,947	84728
Sales MWh-Prepayment			59,025	77,731	87,042	102490
Rev. collection Credit	1,064,723,110	970,850,817	777,262,398	630,356,000	628,463,000	802,804,273
Prepayment sales	N/A	300,419,120	456,083,156	512,615,000	647,586,000	893,670,964
System Losses (**including** Power House Consumption)	39%	33.34%	32.7%	31.2%	31.2%	23.8%
Power Demand MW	88	90	108	126	132	147
Energy Demand MWh	416,280	473,040	501,420	596,030	621,680	647,330
Customer growth p/a %	7.5	15.1	20	10	23	13
Energy Demand Growth rate	12.8	13.6	6	18.9	4.3	11.4
Power Demand Growth rate	12.8	2.2	20.0	16.7	5	4.1
Revenue growth rate	51	19	-3.0	-7.3	12	33

Table 9: Status of the electricity market.

NAWEC's customer base during the period under review has increased by 13% compared to 23% the previous year. This is an indication that growth in customer numbers if translated into higher energy demand then the company will face serious challenges in future. As there has not been any significant addition to the generation units. The company is also making giants steps in transmission and distribution as shown by the increase in customer numbers.

The impact of the Venezuela project has resulted in increased customer numbers which correspondingly has lead to high revenue collection for the company. The revenue collection for credit meter customers rose by 28% compared to a negative value in the previous year, while those on prepayment rose by record high of 38%.

The high increase in prepayment revenue is a clear demonstration of the fact that the policy of changing all domestic meters to prepayment is the best option going forward and NAWEC as a matter of urgency should endeavour to change all the remaining meters in the network.

However the increase in revenue should not be associated with the shift in prepayment alone, the 2012 tariff increase played a very important role in the high revenue collections realized. This is because whereas the consumer numbers increased by 13%, the rate increase was at 26% which explains the high revenue of D1,696,475,237 representing a 33% increase across all categories.

Water Service Provision

As the year 2015 gets closer, Governments all over the world are monitoring their MDG commitments especially those linked to water, health and education. According to reports by the United Nations in its publication “MDG Progress Index, Gauging Country level Achievements” The Gambia is on target in meeting the MDG goal of halving the proportion of people without sustainable access to safe drinking water.

This mile stone is achieved through realistic polices designed by the government in having the understanding that water is the source of life.

Investment in the Water Sector

The Government has contracted series of loans and grants to ensure NAWEC lives up to its expectation and one such project is the Greater Banjul Water Ring project which has linked all the various networks into a ring. This has enabled NAWEC to extend its services to as far as Sanyang in Kombo South and back to Brikama.

In an effort to increase the water service coverage, new projects were embarked on by NAWEC notably;

a) Kotu Ring Mains Project which comprises of:
   - 3 elevated tanks i.e. 1 x 2000m3; 2 x 1000m^3.
   - 1 underground water tank 250m^3.
   - 1 aerator plant.
   - 5 production boreholes; 2 observatory boreholes.
   - 28km of distribution ring mains.
   - 1 x1.2MW standby generator (being installed during visit)
   - New electrical control panel cubicle.

b) The Gunjur Water Supply project which was launched in late 2012. The main project features are as follows:
   - o 2 boreholes
   - o One 500m^3 overhead water tank
   - o One 250m^3 underground reservoir tank
   - o Aerator unit of 100l/s capacity
   - o Chlorination unit for water disinfection
   - o 7 kilometers of distribution pipes
   - o 45 community managed water points/standpipes
   - o Metered household connections for Gunjur residence

Water Production and Distribution

Service delivery in the major Administrative Centres has also enjoyed some improvement both in terms of production and supply through maintenance and in some cases expansion. In the areas that do not enjoy NAWEC's services, pipe borne water is provided through the Department of Water Resources in collaboration with donor agencies and NGOs.

The tables below show all the NAWEC water points across the length and breadth of the Country.

Well fields (GBA)	No. of Boreholes	Status
Salagi & Jambur	15	Operating
Wellingara & Sukuta	11	Operating
Fajara	6	Operating
Brikama	16	Operating
TTC	1	Operating
NASA	1	Operating
Yundum	1	Operating
Kanifing	1	Operating
Kerr Serigne	1	Operating

Table 10: List of various well fields and the number of boreholes in each well field.

Well Fields (Provinces)	No. of Boreholes	Status
Essau	2	Operating
Kerewan	2	Operating
Mansakonko	2	Operating
Farafenni	2	Operating
Kaur	1	Operating
Janjangbureh	1	Operating
Bansang	1	Operating
Basse	2	Operating

Table 11: List of provincial boreholes and their operating status.

Sewerage Plant	Status
Banjul	Operating
Kotu	Operating

Table 12: Sewage facilities in the GBA

Station	Production (m^3) 2009	Production (m^3) 2010
Essau	247,149	272,923
Kerewan	135,021	109,458
Mansakonko	532,471	522,551
Farafenni	434,941	518,752
Kaur	1,527	2,006
Janjangbureh	105,898	99,997
Bansang	309,499	317,799
Basse	382,170	565,058
Total	**2,148,676**	**2,408,544**

Table 13: provincial water production by LGA for the years 2009/2010

Water Quantity Sold and Revenue

The quantity of water produced, sold and revenue generated during the period of 2010 to 2012 is shown in the table below.

YEAR	PRODUCTION (m^3)	SALES (m^3)	LOSSES (%)	REVENUE (Dalasi)
2010	27,781,445	22,605,584	18.63	152,240,000
2011	28,309,264	18,501,049	34.65	126,473,463
2012	29,930553	20,563417	31.30	225,864,000

Table 14: Amount of water produced, sold and revenue generated.

The production figures from 2010 to 2012 in the above table indicate that the company has maintained steady production growth of over 1million cubic meters per annum. The sales figures exhibit that the losses in the system are high. In 2010 the company registered over18% loss of the water produced and this figure went up significantly to 34.65% in 2011, however during the period under review the loss went down slightly to 31.30% which still falls way below expectations.

The revenue generated over the period was significantly affected by the level of production losses. In 2010 when the production losses was at 18% the company generated D152, 240,000. However in the subsequent year the company only registered D126,473,000 representing a drop in revenue by 17% . The high production losses registered during that period of 34.65% could be an explanation for this drop in revenue. In 2012 the company was able to nearly double its revenue by registering D225, 846,000 representing a 78% increase even though the production losses only decrease from 34.65% to 31.30%.

This could be attributed to the 33% tariff increase placed on the water sector and it further demonstrates the fact that water is a viable sector that can be profitable on its own without cross subsidization.

PART IV:

CONSUMER AFFAIRS

In any competitive market, of which the regulated entities are not an exception, one depends on the quality of information supplied in order to make an informed choice between the varieties of services on offer by the regulated entities. This understandably creates a situation based on the saying “simplicity for the consumer means complexity for the provider”.

The Consumer Affairs directorate therefore is task with the enormous task of simplifying for consumers through information, education and awareness programs, in line with our mandate under the PURA Act 2001, whilst being mindful of the overall mandate of the Authority which is to do with balancing the interest of both the provider and the consumer. During the period under review the directorate registered milestones as in the following areas:-

Consumer Protection

The undertaking of the consumer affairs directorate is to protect consumers and the general public from all forms of ambiguity and obscurity in relation to the services that they consume, as such a lot of time have been devoted to educating them in relation to and not limited to the following:-

- the services that they consume through all available media
- played our advisory role by periodically publishing in all major newspapers as to the now synonymous “419” type of frauds in the marketplace
- offer guidance on how to file complaints or send in tips regarding suspicious activities to our free to caller phones, through radio and newspaper advertisements
- Provide updates through our open door policy to engaging consumers on issues of concern to them in relation to all regulated entities.

Call Center Monitoring (Mystery Shopping)

The directorate embarked upon mystery shopping exercises in order to determine the customer experience in using the customer care toll free numbers of regulated services. As in the previous years, the exercise yielded some positive results in the way that customers are handled when they come in contact with the customer care staff of the regulated entities.

The directorate is pleased to report that, for the year under review NAWEC's 169 free phone call center performed reasonably well in terms of how the call center staff deal with calling customers. This stood out for the simple reason that these staff of NAWEC, who based on our observations, use to be nonchalant in the concerns of their callers, have began to understand the benefits and value of applying courtesy in dealing with customers.

We are pleased to report that all call centers are maintaining their professional approach to handling and dealing with complaints and enquiries with the exception of GAMCEL's 130, which is still operating a manual system of call processing, and as a result customers continue to experience some degree of difficulty in getting through to them. PURA is engaging them to improve upon the customer care access.

Statistics of Complaints Received

During the period under review the following complaints were registered against the following regulated entities as depicted:-

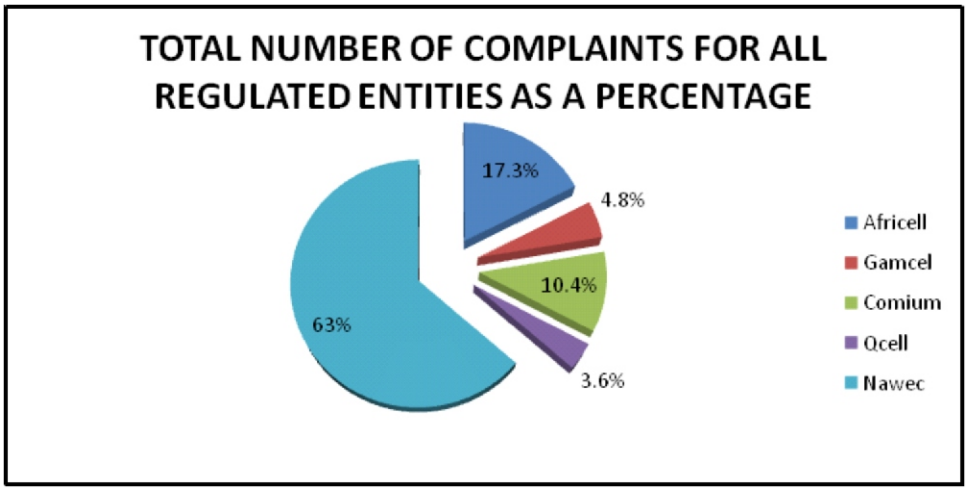

Figure 16: Chart showing distribution of complaints by operator

The total number of complaints registered for the period under review amounts to 250, from which the bulk of interventions came from the consumers of NAWEC in relation to electricity and water. Generally though, for the year under review we have seen a steady decline in the overall number of calls to the regulator with regards to general consumer complaints. This could be related to the effective monitoring by the regulator with regards to how complaints are handled by all operators, through a myriad of ways and or the emphasis placed on training and development by all operators in terms of complaint handling and effective customer care.

Finally, it needs to be commended that for the third successive year running none of the ISP's has registered any complaint against them for the period under review.

Stakeholder Relations

During the period under review the Authority through the Directorate of Consumer Affairs continues to engage and support consumer protection groups like Foundation of The Gambia Incorporation (FGI). The directorate also worked with consumer protection consortium (CPC) with the specific aim of strengthening both international and regional measures to protect consumer rights protectors With a view to facilitate and streamline our engagements with all consumer advocacy groups under one umbrella. This is seen as imperative for the Authority in its continuous drive to help in developing the advocacy groups to act as arbiters in relation to the overall protection of Gambian consumers.

Consumer Education and Advocacy

During the period under review the Authority based on an internal assessment which indicated a reduced number of calls to our free phone number 148. PURA decided to create a jingle in all the local languages reminding consumers of the continued availability of the system of complaint resolution through a free phone number dubbed 148. Having said that, it is also worthy to note that, a reduced number of calls to our 148 hotline could also be interpreted as an indication of operators handling their customers complaints more efficiently thereby negating the need for the regulators intervention.

For the year under review no consumer parliament or Bantaba outreach programmes were held due to regulatory fee constraints, most if not all advocacy programmes are highly capital intensive to organise and as such we were not able to embark on this very important aspect of our role in Informing communicating and educating all consumers of regulated entities, through these now synonymously successful platforms.

However, the Directorate still maintains the operation of our 148 free to caller phones, operational during the working week from Monday to Friday.

CTO/ITU (Child Online Protection)

Child Online Protection (COP) has been established as an international collaborative network for action to promote the online protection of children worldwide by providing guidance on safe online behaviour in conjunction with other UN agencies and partners. Its main aim is to tackle cyber security holistically, by addressing legal, technical, organizational and procedural issues as well as capacity building and international cooperation. Our children are our future. This universal fact, coupled with young people's particular vulnerability in an online environment, made a specialized initiative within the larger framework a necessity. The legal, technical and institutional challenges posed by the issue of cybersecurity are global and far-reaching and can only be addressed through a coherent strategy taking into account the role of different stakeholders and existing initiatives, within a framework of an international collaborative network.

The Directorate of Consumer Affairs took the lead in this initiative by first of all coordinating a COP National Survey carried out by the ITU with the aim of identifying a broad range of issues connected to national policies and practices in the field of COP:

- to determine the scope of COP policy and legal frameworks across the world
- to establish a database showing what is happening in the area of COP.

Since September 2011, more than 90 countries have participated in the Survey with The Gambia included.

Premised upon this, the COP project therefore has been launched as a joint initiative of the ITU and the CTO with the primary aim of tackling Child Online Protection which is aimed at fostering greater international cooperation.
Its key objectives are to:

- Identify risks and vulnerabilities to children in cyberspace
- Create awareness
- Develop practical tools to help minimize risk
- Share knowledge and experiences

This project as a pilot is not initiated to reinvent the wheel but rather seeks to build on what is already available in the country and to create multi-stakeholder partnerships within the country that will work collaboratively to further these objectives. To that end the project seeks to establish a COP National Framework for The Gambia.

Under the able-leadership of PURA stakeholders from civil society organisations, telecom operators, the police, National Intelligence Agency, internet service providers, Ministry of Information and Communications Infrastructure, Department of Social Services, Ministry of Justice etc. were invited to belong to a national taskforce dubbed Child Online Protection National taskforce.

From the maiden meeting of the taskforce, and having briefed the invited stakeholders, it was unanimously accepted by all that such a taskforce is very timely due to its relevance to the country's current technological position of acquiring a submarine cable, which in effect will invariably have benefits but also cost in terms of how our children can be affected in an online environment if not supervised accordingly.

This particular taskforce will be led by the directorate of consumer affairs in discharging the expected functions of the Authority in realising the full potential of the pilot, for the benefit of the country.

SIMCARD REGISTRATION

Further to the Executive Directive dated 1st April 2011 for SIM Cards to be registered, SIM Card Registration became mandatory in The Gambia for new subscribers on April 15th 2011 and for old subscribers of mobile services on January 15th 2012.

The Authority was instructed by the Ministry of Information and Communication Infrastructure (MOICI) to coordinate the project. As a result, PURA has been working hand in glove with the operators to ensure the successful implementation of this project.

The SIM Card Registration exercise has three main phases:

i. **Phase 1**: Registration of subscriber details by the operators using valid identification documents.
ii. **Phase 2**: Verification of the registration details by the Verification Team which comprises a team from the Gambia Immigration Department (GID) and another from the Independent Electoral Commission (IEC).
iii. **Phase 3**: Confirmation of registration to subscribers by the operators following valid verification.

PURA was very instrumental during Phase 1 of the project which involved the registration of subscribers all over The Gambia. PURA together with the operators carried out various sensitisation campaigns to educate the public about the registration process in terms of why it is important, how to register and where to register. Sensitisation took the form of print, radio and TV media.

PURA also organised the operators to visit various governmental offices to register employees and underwent a 50 day Provincial Outreach Program with the operators to take registration to the people and make it accessible to all.

Figure 17: An Africell staff registering a subscriber in his native village

Figure 18: Multi operator team registering youths in a village

Figure 19: Registration went on even in the late evening

SIM registration in the provinces

Phase 2 which is the verification phase involves the submission of registration data to the Authority by the operators, for onward transmission to GID and IEC who will carry out the verification exercise.

During the year under review, PURA has received and forwarded to the verification teams, two batches of registration data from the operators.

1. 1st Batch: registration data from project inception to the 15th of April 2012
2. 2nd Batch: registration data from the 16th of April 2012 to the 25th of July 2012.

An initial deadline for the SIM Card Registration Project was set for the 15th of September 2012, which saw both PURA and the operators engage in the continuous sensitisation of consumers to get as many subscribers registered as possible.

The State of Verification

Operators submit their registered data to PURA for onward transmission to the Verification Teams at GID and IEC who carry out the verification exercise.

Once the data is verified, the GID and IEC teams return the data to PURA to return to the operators. PURA returns the data to the operators in two formats as follows:

1. **Verified Data**: this is data that was successfully verified in accordance with the information on the IEC or GID database.
2. **Unverified Data**: this is data that could not be verified due to incorrect/invalid information which did not match the information on the IEC or GID database.

On the submission of the data to the operators, PURA also requests that they inform subscribers whose details have been successfully verified via text message or any other means appropriate and in the same vein notify subscribers whose details could not be verified and ask them to re-register using the correct details.

Events prior to the September 15th deadline

PURA together with the SIM Card Registration Taskforce embarked on a Readiness Assessment Tour to all four operators to see what systems they had in place with regards to deactivation of unregistered SIM Cards come the September 15th deadline. The tour also aimed to avail the operators a chance to discuss any constraints they may be facing regarding the deactivation of unregistered subscribers.

The major concern expressed by the operators was the potential strain on their switches if they deactivate all unregistered subscribers in one go. According to them, this would be too much pressure on their switches and some even feared their systems going down.

As a result of these concerns, PURA together with the SIM Card Registration Taskforce agreed to allow the operators to do the deactivation in batches immediately after the September 15th deadline which was to be completed within a period of five (5) working days ending Friday the 21st of September 2012.

Analysis of the Data received from the Operators

After a close look at the data previously received from the operators, PURA realised the need to do further analysis of this raw data as it happens that operators had registered the same subscribers more than once sometimes using the same form of ID and in other cases, using different IDs. Part of this could be attributed to subscribers registering initially and once they see or hear an advert relating to the deactivation of unregistered SIM Cards, they panic and go back to register again. Another theory was the fact that operators like GAMCEL were giving out free credit to subscribers who register their SIM Cards. As such, this was an incentive for some subscribers to register more than once to benefit from this kind gesture.

Extension of the SIM Card Registration Deadline

None of the operators complied with the Authority's determination to deactivate all unregistered SIM Cards by the 21st of September 2012. The highest percentage of deactivated numbers by the 21st of September 2012 was 20% by COMIUM.

As such, the Authority gave a final warning to all operators and further determined that all unregistered SIM Cards be deactivated by the 9th of October 2012 and the compiled data to be sent to the Authority by 4pm on the 10th of October 2012.

On the 10th of October 2012, no data was received from any of the operators. Instead, PURA was asked to attend a meeting at the Office of the President which was also attended by the Secretary General and all the operators.

At this meeting, the Secretary General commended PURA for its hard work and dedication in ensuring the success of such an important national project and urged the operators to continue to work closely with PURA. He informed PURA that the Office of the President was aware that the deactivation of unregistered SIM Cards so far had caused losses to all operators including GAMCEL which is government owned. He said the reason for SIM Card Registration was purely for security and not to stifle any business. As such PURA was asked to extend the deadline by a further three (3) months to give operators the chance to register their remaining subscribers.

PURA received a letter to this effect from the Office of the President, dated 16th October 2012, conveying an Executive Directive to extend the SIM Card Registration deadline by a further three (3) months to the 31st of January 2013.

This was subsequently followed by a second letter from the Office of the President, dated 19th November 2012 conveying another Executive Directive to extend the SIM Card Registration deadline to December 2013.

The directorate continues to participate as taskforce members of the SIM-card registration project, and continues to contribute to the envisaged successful conclusion of the project.

PART V:

LEGAL MONITORING & COMPLIANCE REVIEW

Legal and Compliance Review

The Authority's aim in further strengthening the work of the Legal Directorate was marked with the appointment of a Legal, Licensing and Enforcement Manager in April 2012.

During the period under review, the Legal Department embarked on the following activities:

Dispute Resolution

The Legal Department was successful in resolving the longstanding interconnection dispute between COMIUM (petitioner) and GAMTEL (defendant).

On the 8th February 2012, COMIUM filed with the Authority a detailed statement of claim against GAMTEL which comprised of the following:

i. Undisputed invoices relating to unpaid interconnection charges by GAMTEL

ii. Interest claim from the period March 2008 to December 2011.

iii. Disputed amount for the difference between interconnection rate of D 2.50 and D2.00 per minute from the period July 2008 to October 2009.

iv. Non disputed invoices relating to interconnection from January 2012 till date (Current Invoices).

v. Legal and administrative costs

Upon receipt of the claim, the Authority conducted a thorough analysis of all the issues submitted to it by both parties of the dispute in strict accordance with its Dispute Resolution Guidelines and made a Determination dated 7th December 2012 based on an open, fair and unbiased reasoning.

Licensing

1. Licences Issued

The year under review saw the licensing of the following:

i. The Gambia Supreme Islamic Council (GSIC) was authorised to operate and manage Radio Falah as a commercial radio station within the Republic of The Gambia

ii. UNHCR and the International Monetary Fund (IMF) were granted a licence to install and operate a Class B VSAT in The Gambia

2. Development of new Licensing framework for all regulated sectors

PURA revised its licence application packages and accompanying guidelines for the Water, Energy and Information and Communication sectors. All application forms and guidelines are also made available online.

The Authority also developed a streamlined internal review process for licence applications received from all regulated sectors to ensure that all relevant directorates are involved in the application review process.

The Authority in close collaboration with the Ministry of Information and Communications Infrastructure and the operators produced a draft licence for the Information and Communications Sector which is expected to be validated and issued to all relevant operators by 2013 ending. The said licences are thorough and comprehensive and they incorporate the comments raised by the operators concerned.

In July, PURA hosted a workshop for all Commercial radio stations which was also attended by representatives of the Ministry of Information and Communications Infrastructure. The objective of the workshop was to present the draft commercial broadcasting licences to the invitees in a bid to collate all comments prior to finalising the regime.

Monitoring Activities - Telecoms

Quality of service monitoring

The IC Act 2009, Section 83, mandates the Public Utilities Regulatory Authority (PURA) to ensure that all licensed Telecommunications Service Providers offer an acceptable quality of service.

In a bid to fulfil its mandate as provided for in the Act, PURA in balancing the interest of all stakeholders seeks to protect both consumers and the regulated utilities (operators) by empowering them through the following;

1. Consumers to be able to make informed choices.
2. Operators to perform more efficiently and sustainable in a competitive market environment.
3. Encourage the implementation and sustainability of a Quality of Service Framework whereby the quality of service of operators in the market will be measured, reported and published based on definitions and measurement methodology uniformly applied across the industry.

To this effect, PURA developed QoS Guidelines through a consultative process with all GSM operators. The Authority procured a QoS monitoring network, that can independently verify, evaluate and validate QoS Key Performance Indicators (KPI).

The QoS Monitoring Network generates reports and benchmark them against the set targets stipulated in the QoS Guidelines. Generated reports shall be published for the consumption of the general public. This will ensure that consumers get up to date and accurate information about the performance of various Mobile Communication Service providers' networks. This will help them make informed choices when deciding on their choice of network.

The QoS platform was officially inaugurated on the 21st December, 2012 in the PURA conference room by the Permanent Secretary, MOICI as can be seen in Figure 21.

Figure 20: The Director of Consumer Affairs during the opening Ceremony

Figure 21: PS MOICI, Mrs Nancy Njyang giving her opening statement

Figure 22: PS MOICI, DG PURA and representatives of GSM companies and the media during the QoS launching

Figure 23: The Director of Technical Regulation demonstrating some of the features of the system

Summary of Overall Performance for 2012

The summary of the operators' overall performance for the year 2012 arising from the specific quality of service parameters and targets are summarized in the table below.

Name of Network operator	No of Assessed QoS parameters	No. of Parameters Complied with	Minimum % required to attain overall compliance	Achieved % Compliance level	Overall Compliance Status
GAMCEL	8	4	70%	50%	Not Compliant
AFRICELL	8	8	70%	100%	Compliant
COMIUM	8	5	70%	62.5%	Not Compliant
QCELL	8	8	70%	100%	Compliant

Table 15: Overall QoS compliance

GAMCEL registered an overall compliance of 50%. This compliance falls far below the required compliance target of 70%. This low performance of GAMCEL is in the provinces which are served by ageing equipment whilst the best performance is within the Greater Banjul Area.

COMIUM registered an overall compliance of 62.5% which falls below the required compliance target of 70%. The assessment made by the Authority concludes that the non compliance may be due to lack of adequate network capacity to handle calls generated as a result of certain promotions.

Comparison of Parameters across the Regions

Call Success Rate (CSR)

This parameter measures the number of calls that are completed / connected on a network satisfactorily compared to the total number of call attempts made by callers. The target set for this parameter is 93% of the calls expected to be completed. Figure 24 below shows the completed calls on each network operator. The call success rate performance, drilled down to randomly selected months and areas are shown in Table 16 and Table 17 respectively.

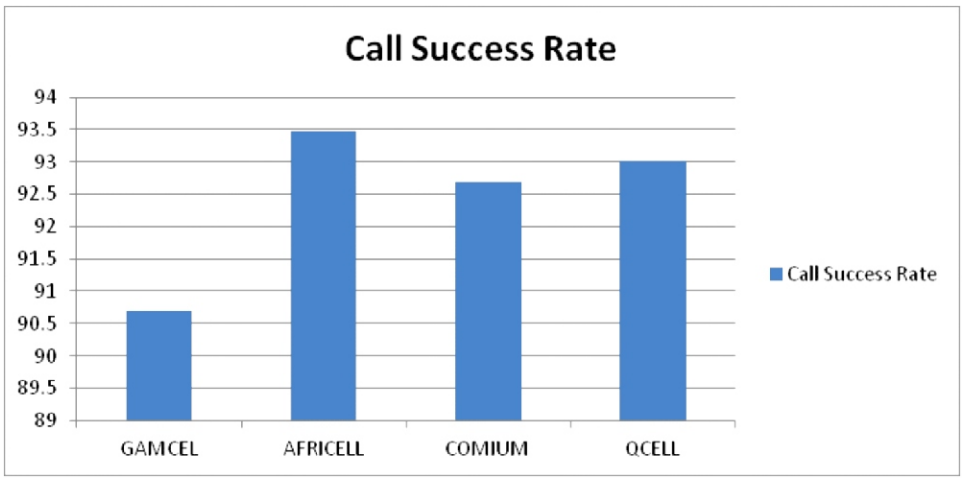

Figure 24: Call Success Rate

	January	February	March	April	May	June	July	August
GAMCEL	91.08	91.58	90.50	90.51	90.53	93.19	93.25	92.12
AFRICELL	90.90	93.59	93.10	93.56	93.31	93.20	93.98	93.78
COMIUM	92.05	92.57	92.1	92.07	92.62	93.23	93.35	92.45
QCELL	92.55	93.13	92.57	92.95	91.62	92.52	92.79	92.98

Table 16: Call Success Rate (CSR) on monthly basis

Month	Town/village	GAMCEL	AFRICELL	COMIUM	QCELL
March	Badjakunda	89.11	85.31	93.1	94.95
March	Basse	85.79	93.03	90.63	82.35
March	Farafenni	93.2	89.62	93.96	93.62
March	Kaladji	92.35	93.1	90.14	94.81
March	Janjangbury	93.91	91.98	92.4	95.94
March	Sanyang	95.55	83.72	92.8	90.03
August	Badjakunda	89.11	90.08	96.3	92.82
August	Basse	91.91	93.93	92.79	96.94
August	Farafenni	92.71	94.20	95.15	95.17
August	Kaladji	92.35	93.87	92.24	94.57
August	Janjangbury	93.44	94.18	95.12	95.37
August	Sanyang	96.76	89.89	94.3	93.72

Table 17: Call Success Rate (CSR) in randomly selected areas

From Figure 24 we can see that only AFRICELL and QCELL have achieved the set call completion rates target throughout the country. COMIUM has marginally missed the set target whilst GAMCEL have a larger margin. GAMCEL's performance is very impressive in the Greater Banjul Area where customers are served by new network resources compared to the rural areas which are served by older network equipment.

From selected months, towns and villages, no operator is fully compliant.

Handover Success Rate (HSR)

Call handover occurs when a mobile handset moves out of one cell to the next and is handed over automatically from the base station of the first cell, to that of the next with no discernible disruption of the call. This rate represents the efficiency for mobility between cells (this can be affected by bad radio quality or signal strength). This rate should be higher than 92% and Figure 25 shows the compliance levels of this parameter by the operators.

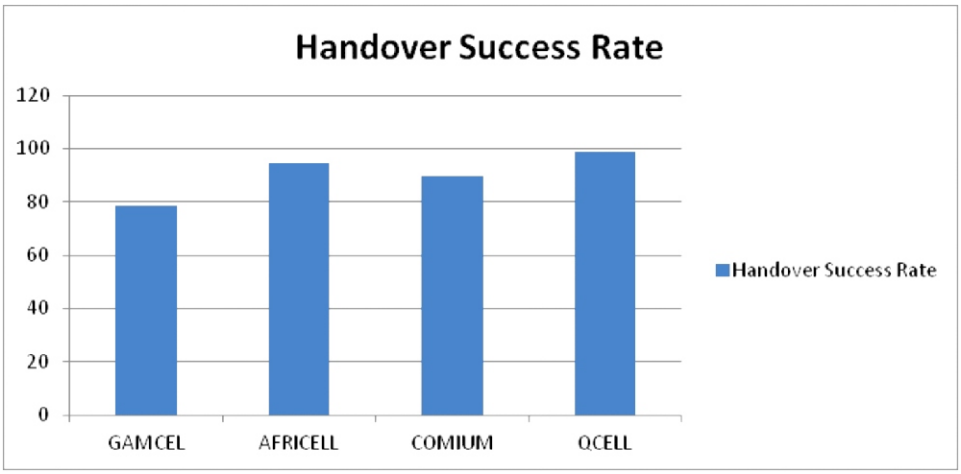

Figure 25: Handover Success Rate

	January	February	March	April	May	June	July	August
GAMCEL	78.55	79.02	76.81	76.78	76.89	82.63	80.68	79.22
AFRICELL	94.58	94.72	94.76	94.75	94.75	94.71	94.53	93.80
COMIUM	91.18	91.54	90.34	89.56	89.41	88.94	88.95	87.12
QCELL	96.91	97.25	97.03	97.32	97.18	97.10	97.07	98.55

Table 18: Handover Success Rate on monthly basis

Month	Town/village	GAMCEL	AFRICELL	COMIUM	QCELL
March	Badjakunda	79.04	86.29	98.29	89.29
March	Basse	89.76	94.6	95.92	99.76
March	Farafenni	96.84	94.58	96.12	99.35
March	Kaladji	96.03	81.29	95.17	97.63
March	Janjangbury	89.28	81.79	96.98	99.72
March	Sanyang	91.4	92.6	92.14	98.72
August	Badjakunda	72.76	83.62	98.43	94.56
August	Basse	91.97	94.62	97.28	99.77
August	Farafenni	97.33	93.45	95.59	98.64
August	Kaladji	96.02	80.37	95.63	99.75
August	Janjangbury	92.99	81.51	96.96	99.69
August	Sanyang	92.27	90.9	89.11	99.43

Table 19: Handover Success Rate in randomly selected areas

As seen in Figure 25 only AFRICELL and QCELL have surpassed the target of 92% and were compliant with call handover whilst GAMCEL and COMIUM had not to meet this target. From selected months, towns and villages in Table 18 and Table 19 respectively, no operator is fully compliant.

Installation of Base Station Transceiver

The mobile service providers install Base Station Transceiver (BTS) towers in different locations to provide mobile network signals for customers within the coverage area to be able to communicate.

In some areas particularity in the rural areas, the lack of installed BTS has meant that customers in these areas cannot access mobile signals to communicate.

The Authority in fulfilling its mandate of Universal Service Access to ensure that communication services are extended to the rural areas, has set a target for each operator to install at least one BTS in the provinces during the cause of the year. These are areas where universal service is not available, and where provision of such services is not estimated to be commercially profitable and where such service has not reached

This parameter was put in the Quality of Service Guidelines to ensure that operators do not concentrate their operations in areas where return on investment is guaranteed. All operators have complied with this target.

The implementation of this universal Service Access by the operators was identified as PURA's contribution to the government's poverty reduction strategy. The overall objective is to ensure that telecommunications services are accessible and affordable to the un-served and underserved population of The Gambia.

Inspection and Monitoring Electricity and Water Sectors

PURA Engineers visited all the Power Plants both public and private during the course of the year. All plants managers were required to submit their maintenance plans for the year and this was used to inform PURA of the likely dates of maintenance and ensure there was no overlap that could cause serious lack of electricity.

After each and every inspection visit the operators were written to with recommendations to improve service delivery or working and operations standards.

Health and Safety, in particular was one issue that has now been taken seriously by operators especially NAWEC. NAWEC staff are being regularly trained on the safe working practices.

Overall there was an improvement in the delivery of electricity services compared to 2011. However there were occasional periods of temporary but severe load shedding especially in the 3rd quarter when there was a delay in the imported fuel delivery.

Regarding the GAMWIND turbines in Tanji, PURA noticed that there were no beacon lights on the wind turbines and this could pose a possible hazard to aircraft. All relevant stakeholders including the GCCA were consulted to ensure warning lights were installed.

PART VI:

ICT, ENERGY & WATER SECTORS

Telecommunications Sector

Broadcasting

A total of three (3) FM commercial radio stations were authorised to operate in The Gambia. The radio stations and frequency assignments are as follows:

Nr	Date	Station Name (Call Sign)	Frequency (MHz)
1	6 th February 2012	STAR FM	96.6
2	7 th March 2012	HOT FM	104.3
3	13 th November 2012	FALAH FM	107.2

Afriradio FM was given the go ahead to operate on a frequency of 107.6 MHz. GRTS radio Studio Transmitter Link (STL) was assigned a frequency of 106.7 MHz to send signals form Mile 7 to Bonto for onward transmission to inner Gambia.

The Authority has submitted a list of 77 FM frequencies to the ITU's to register these frequencies so that they can be assigned to FM Radio applicants in the country in line with the Geneva, 1984 (GE84) Plan,

The GE84 is the regional agreement relating to the use of the frequency band 87.5 MHz to 108 MHz for FM sound broadcasting for all countries in Region 1 and part of Region 3. It is from this regional plan that member countries including The Gambia assign frequencies to applicants. The assignment of frequencies is done in line with the national frequency assignment plan and in consultation with the neighbouring countries and Final Acts of GE84.

Spectrum Management Workshops

PURA was part of a six man delegation from that attended the World Radiocommunication Conference 2012 (WRC-12) which was held in Geneva from 23rd January to 17th February 2012. The Gambian delegation was headed by the Permanent Secretary, Ministry of Information and Communications Infrastructure (MOICI) as can be seen in Figure 26.

The World Radiocommunication Conference takes place every four years and its objective is to review and revise the International Telecommunications Union Radio Regulations and the international treaty governing the use of radio-frequency spectrum and satellite orbits. The work of this international treaty-making conference was conducted to address the changes required to the regulation of orbit / spectrum resources in the interest of the users of these scarce resources, with global implications for policy-makers, regulators, the industry as well as end-users.

The World Radio-communication Conference 2012 reviewed and modified global spectrum regulations to ensure that this most precious resource is used effectively to benefit all players and to ensure reliable radio services are available everywhere and at any time enabling people to live and travel safely while enjoying high performance radiocommunications.

Figure 26: The Gambian delegation to the World Radio Conference 2012

EGSM

GAMCEL embarked in a network densification in the Greater Banjul Area by configuring new Base Station Transceivers (BTS) that were capable providing higher capacity in the extended GSM band. Consequently, in September 2012, the Authority received a request from GAMCEL for assignment of frequency spectrum in the Extended GSM band (EGSM) 900MHz with a view of minimise network congestion. This request was reviewed and approved for the assignment of EGSM 900 MHz band frequencies on their radio access network in line with Part VII, Section 89 (1 to 5) of the IC Act 2009 was given as can be seen in Table 20 below.

Band	Channel Number	Frequency (MHz) - UL	Frequency (MHz) - DL	Remarks
EGSM	1002	885.6 MHz	930.6 MHz	GAMCEL's assignment in the EGSM 900 MHz band
	1003	885.8 MHz	930.8 MHz	
	1004	886.0 MHz	931.0 MHz	
	1005	886.2 MHz	931.2 MHz	
	1006	886.4 MHz	931.4 MHz	
	1007	886.6 MHz	931.6 MHz	
	1008	886.8 MHz	931.8 MHz	
	1009	887.0 MHz	932.0 MHz	
	1010	887.2 MHz	932.2 MHz	

Table 20: EGSM frequency assignments to GAMCEL

Type Approval

Equipment Type Approval is the process by which communications devices brought into the country for commercial or domestic use are verified to be in harmony with PURA's spectrum requirements. The process ensures that electromagnetic emissions meet the minimum environmental safety requirements and ascertain the non-interference with other communications equipment, thus minimising the risk of potential health hazards to users.

In 2012, PURA granted 12 equipment type approval authorisations. Details of the organisational and communications models authorised as shown in Table 21 below:

Nr	Equipment	Model Number
1	Tire Pressure Monitoring (TPM) transmitter	FE3MAF4
2	Samsung Smart Touch Control	RMCTPE1
3	Samsung 3D Active Glasses	SSG-4100GB
4	Samsung Smart Touch Controller & IR-Blaster	VG-IRB2000
5	Samsung Wi-Fi Module	WIDT20R
6	IBM Data / Fax Socket Modem	MT9234SMI
7	Digital Car Audio System	AM111A7GG
8	Digital Car Audio System	AM110A7GG
9	Digital Car Audio System	AC210GFGG
10	802.11b/g/n Realtek miniCard	RTL8188EE
11	Digital Car Audio System	AM110A4GG
12	AM / FM Stereo Radio Car Entertainment System	LSP2GTS

Table 21: Type Approval assignments

Amateur Radio

Amateur Radio (Ham Radio) is a popular hobby and a service in which licensed participants operate communications equipment. The hobby of Amateur Radio is a mix of fun, public service, and convenience. Although hams get involved for many reasons, they all have in common a basic knowledge of radio technology and operating principles, and pass an examination for the Federal Communications Commission (FCC) license to operate on radio frequencies known as the "Amateur Bands." These bands are radio frequencies reserved by the Federal Communications Commission (FCC) for use by hams at intervals from just above the AM broadcast band all the way up into extremely high microwave frequencies.

The Authority in 2012 processed and assigned thirteen Radio Amateur HAM Call Signs to applicants to operate Radio Amateur HAM equipment in The Gambia. The Call Signs assigned are shown on Table 22.

Item Number	Call Sign	Month Assigned
1	C5LT	January
2	C5BT	January
3	C56XA	January
4	C5YK	January
5	C5AVT	January
6	C5KFH	March
7	C56LH	March
8	C5/M1KTA	August
9	C5S	September
10	C5A	October
11	C52C	October
12	C50C	October
13	C5WP	November

Table 22: Amateur Radio call sign assignments

Maritime Mobile Service Identity

All vessels operating on the high seas require a Maritime Mobile Service Identity (MMSI) number to participate in the Global Maritime Distress & Safety System (GMDSS). In addition to GMDSS participation the MMSI number also serves as a unique identifier of the vessel for all communications. As the international governing body for telecommunications the International Telecommunications Union (ITU) has set the international conventions for the use of MMSI numbers. The Authority is responsible for assigning MMSI's to commercial and recreational vessels. Many users of radio frequencies require a high degree of certainty that their radio transmissions will reach the intended recipient.

The Authority in 2012 processed and assigned five MMSI numbers to vessel as shown in Table 23.

Item Number	Assigned call sign	MMSI Number	Name of Vessel	Month assigned
1	C5J18	N/A	MV HADDIJATOU	January 2012
2	C5J24	629009008	MV TUG M/T FARES	January 2012
3	C5J22	N/A	MV LADY MARIA	January 2012
4	C5J68	629009014	MV ALLEGRO	June 2012
5	C5J68	629009014	FV TEFFESS 1	August 2012

Table 23: MARITIME Call sign assignments

VSATs - Very Small Appeteur Terminal

During the period under review, two entities shown in Table 23 were authorised to operate VSATs in The Gambia, namely the United High Commission for Refugees (UNHCR) and the International Monitory Fund (IMF)

Nr	Month Assigned	Applicant	VSAT Type
1	February 2012	UNHCR Gambia	Class 'B' VSAT
2	August 2012	IMF Gambia	Class 'B' VSAT

Table 24: Very small terminal assignments

Masts / Towers

The importance of having warning lights on mast and towers is not only important but critical particularly regarding aeronautical lightening obstruction. This is why the Authority in line with International Civil Aviation Organisation recommendations, requested all telecommunications/ ICT and FM Radio Broadcasters to implement the issues highlighted below by 22nd September, 2011.

a. paint their mast and towers with equal bands alternating Red and White or Orange and White on the sectors along the height of their masts and tower structures;

b. install obstruction lighting on all mast and towers whose height is 25 meters and above.

Following consultations, the stakeholders requested an extension of the deadline to complete this assignment. In this regard, approval to extend the deadline to 30th November, 2012 was sent to the operators. As at the end of the Year 2012, the level of compliance by the operators in executing this assignment, varies from 90% - 100%. The operators who have not completed the assignment have requested for an extension.

The Authority will continue to monitor the progress of the operators and ensure compliance to implement this important exercise.

Advanced Communications Capabilities are Essential for the 21st Century

The broadband-enabled Internet is rapidly changing the world. It has become a catalyst for innovation, economic growth, job creation, educational opportunity and global competitiveness. It enhances public safety, homeland security, health care, energy efficiency, environmental sustainability and the worldwide distribution of millions of products, processes and services. It aids in revitalizing depressed urban and rural economies and addressing the special needs of senior citizens, individuals with disabilities, and young people. It creates a vehicle for enhancing the level of civic participation and discourse so important to a functioning democracy. Yet broadband as an enabling technology is still growing out of its infancy. It has unlimited potential that remains to be fully realized.

The Gambia is at a critical juncture. Too many Gambians still do not have access to affordable broadband or lack the equipment or knowledge to use it effectively. If The Gambia is to harness the benefits of ICT, our broadband networks must also be robust enough to enable our people, businesses, and public and private institutions to take full advantage of emerging and future bandwidth-intensive and quality sensitive applications.

PURA is cognizant that for The Gambia to remain competitive in the global economy, it most embrace and accelerate its pace of broadband availability, accessibility and affordability. In this regard, the Authority has been working with stakeholders to stimulate high-speed broadband investment and access, to homes, business and public and private institutions "particularly in un-served areas". Further, it is encouraging and expediting the allocation of frequency spectrum and infrastructure deployment to improve connectivity so to increase the geographical reach of broadband networks and reduce costs of communications services in the territory of The Gambia.

The Authority is also focusing on addressing key regulatory bottlenecks at the national level to maximize the benefits of the proposed connectivity agenda, and maximize benefits from access to capacity on liberalized data international gateway and open access to national backbone infrastructure

Signaling Point Codes

PURA has as statutory function under the IC Act of 2009 to manage and administer the National Numbering resource. In pursuance of the above function, the following main tasks are carried out by the Authority with regards to numbering:

- Setting the framework for the formulation, maintenance and review of the national Numbering and Addressing plans for The Gambia
- Setting the proper framework within which the national numbering scheme may be continuously developed and tailored for new and innovative services;
- Formulation and maintenance of rules, regulations, guidelines and conditions covering management and administration of the national Communication numbering and addressing resources and review of the same, from time to time, in line with technological innovations and convergence for the enhancing competition on the market.
- Assignment of numbering resources numbers for telecommunications services;
- Monitoring the utilization of the resource including performing frequent audits to ensuring that the resources are utilized in accordance with the prescribed dialling procedures, other set guidelines, rules and regulations.
- Amending the numbering plan in accordance with the set guidelines, as and when found necessary;
- Following the work of relevant local, regional and international organizations including the ITU and the ITU Study groups, Internet Governance, Standards Development Organizations (SDOs), Regional bodies like African Telecommunications Union (ATU), West African Telecommunications Regulatory Authorities (WATRA), and national bodies on numbering issues.

During the period under review, GAMCEL requested for additional International signalling point codes (numbering codes that enable telephone exchanges to communicate with each other) for a new Mobile Switch they were to install. The Authority reviewed and determined that GAMCEL could not use their existing International Signalling Point Codes (ISPC) without disrupting services to their customers. New ISPCs were therefore assigned to them to ensure a seamless migration from their old Mobile Switching Center to a new Mobile Switching Center they were installing.

Following the assignment of the new ISPC to GAMCEL, GAMTEL also requested for additional ISPC for a newly installed state of the art Next Generation Network switch which will replace the obsolete and telephone exchange in Banjul.

The Authority reviewed and determined that GAMCEL could not use their existing ISPC without disrupting services to their customers.

Consequently, the Authority requested another international signalling point code from the International Telecommunications Union (ITU) for the country to cater the short term and long term needs of the sector. The ITU has accordingly assigned The Gambia a new Signalling Area/Network Code 6-015.

GAMTEL were hence assigned a new signalling point code to ensure a seamless migration from their old telephone exchange to a new telephone exchange they were installing as can be seen in Table 25.

Name of the Signalling Point Operator	Unique name of the Signalling Point	International Signalling Point Code	Mobile Country and Network Codes
GAMTEL	Fixed line operator	12400	N/A
GAMTEL	Fixed line operator	12401	N/A
GAMTEL	Fixed line operator	12408	N/A
GAMCEL	Mobile service operator	12402	607-1
GAMCEL	Mobile service operator	12403	607-1
GAMCEL	Mobile service operator	12407	607-1
AFRICELL	Mobile service operator	12404	607-2
COMIUM	Mobile service operator	12405	607-3
QCELL	Mobile service operator	12406	607-4

Table 25: Signaling Point Code Assignments to the operators

4G TECHNOLOGY

The airwaves of The Gambia are now filled with advertisements from NETPAGE and QCELL heralding the advent of 4G to The Gambia.

The 4G technology refers to the fourth generation mobile technology, 2G refers to the second generation technology and 3G, the third generation. The International Telecommunications Union (ITU) is the sets these standards and they describe 3G technology as Mobile Telecommunications-2000 or IMT-2000 specifications. These standards have been adopted and widely used worldwide, The Gambia as a member of the International Telecommunications Union is also adopting the same standards. 3G is the upgraded version of 2G which was introduced back in the 1980s and was deployed The Gambia in 2009 by QCELL.

The Gambia has since been using the 2G, 2.5G and then 2.75G technology until the launching of the upgraded IMT2000 technology better known as 3G or third generation. AFRICELL has since the end of the year 2011 deployed 3G technology to provide services to its customers whilst GAMCEL are at an advanced stage of deploying 3G.

The current deployment for 3G in The Gambia is in the band of frequencies also used by the previous 2.5G service. It is important to note that in The Gambia both operators use spectrum of 900MHz and 1800MHz bands or commonly known as the GSM band so only those phones with those frequencies will be able to pick up the 3G signal. The new services offered by QCELL and AFRICELL use WCDMA and HSPA+ technology that is also a 3G technology. These 3G technologies have been marketed in different parts of the world by most providers as 3G Advanced or pre 4G when technically it is not true 4G technology.

The fourth generation (4G) systems are based on the official international 4G standards set by ITU recently in 2010, called International Mobile Telecommunications Advanced or IMT-Advanced, these are mobile systems that include the new capacities of IMT that go beyond those of IMT-2000 or 3G. There are important aspects that distinguish 3G from 4G that users should know about and these are the data speeds as well as other key criteria. The term 4G or 4th Generation defined by ITU should have peak data rates of 100Mbps for mobile and 1Gbps for fixed services. 3G on the other hand has a much lower speed than 4G.

NETPAGE, a licensed Internet Service Provider (ISP), regulated by the PURA, informed the Authority of the launching of a 4G network based on WiMax technology in March 2012, in a letter to the Authority dated 29th February 2012.

The technical department of the Authority did an analysis and evaluation of the 4G network infrastructure and service delivery systems deployed by NETPAGE, particularly in compliance with the 4G standards defined by the International Telecommunications Union (ITU).

Methods of examination include analyses of interviews, site visits, equipment specifications, test results, measurements and reviews. Various 4G test probes were performed at different locations and times, over a three day period to experiment the consumer experience of NETPAGE's 4G Network. The results were compared to the latest ITU defined standards for 4G networks. Download speeds of 10 to 20Mbps were recorded on the higher speed tests while on the more common subscription bandwidth of 1Mbps, an average of 85.8% download throughput success was recorded. The worldwide industry regulatory average starts at about 60%. PURA has set the regulatory benchmark at 70% of subscribed throughput.

The analysis and evaluation also considered the fact that the tests conducted were affected by limiting factors, some of which are:

1. All ISPs in Gambia are affected by bandwidth and internet throughput issues that cause significant fluctuations attributed to our current national internet backbone (GAMTEL). As such, services are sometimes significantly affected by issues beyond NETPAGE's control. Upon the launch of the Africa Coast to Europe (ACE) undersea-cable project expected in December 2012, significant improvements are expected.

2. Other factors that affect the tested throughput include:
   a. distance from the nearest BTS (signal strength)
   b. device being used (indoor or outdoor unit, the user's PC, laptop or mobile phone)
   c. type of bandwidth subscription, i.e., whether shared or dedicated
   d. subscription speed selected (in megabits or kilobits per second Mbps or Kbps)
   e. contention ratio, i.e., the amount of bandwidth sold and used by customers, expressed as a percentage of the total bandwidth available to the ISP.

Notwithstanding the above limitations, our technical department tested the actual throughput speeds, based on the end-user/customer expectations and advertised standards.

The analysis summarized all relevant observations with reference to the NETPAGE infrastructure and service delivery framework and the results compared to current defined 4G standards. Technical analysis on the high speed Internet access technologies shown in Table 25 in particular those 4G was also made.

Based on our objectives, PURA concluded that the NETPAGE 4G infrastructure and delivery systems are in compliance with the approved current industry 4G definitions and standards. However, it is important to note that the 4G technology provided by NETPAGE is for data customers only.

Common Name	Family	Primary Use	Radio Tech	Laboratory Speeds		Technology	Notes
				Downstream (Mbit/s) 141 (2x20 MHz FDD)	Upstream (Mbit/s) 138 (2x20 MHz FDD)		
WiMax rel 1	802.16	WirelessMAN	MIMO-SOFDMA	37 (10 MHz TDD)	17 (10 MHz TDD)	4G	With 2x2 MIMO.[32]
WiMax	802.16	Mobile Internet	MIMO/OFDMA	37 (10 MHz TDD)	17 (10 MHz TDD)	4G	With 2x2 MIMO.[32]
Wi-Fi	802.11 (11n)	Mobile Internet	OFDM/MIMO	288.8 (using 4x4 configuration in 20 MHz bandwidth)	600 (using 4x4 configuration in 40 MHz bandwidth)	3G	Antenna, RF front end enhancements and minor protocol timer tweaks have helped deploy long range P2P networks compromising on radial coverage, throughput and/or spectra efficiency (310 km & 382 km)
UMTS-TDD	UMTS/3GSM	Mobile Internet	CDMA/TDD	16		3G	Reported speeds according to IP Wireless using 16QAM modulation similar to HSDPA+HSUPA
UMTS W-CDMA	UMTS/3GSM	General 3G	CDMA/FDD	0.384	0.384	3G	HSDPA is widely deployed. Typical downlink rates today 2 Mbit/s, ~200 kbit/s uplink; HSPA+ downlink up to 56 Mbit/s.
HSDPA+HSUPA				14.4	5.76		
			CDMA/FDD/MIMO				
LTE	3GPP	General 4G	OFDMA/MIMO/SC-FDMA	100 Cat3	50 Cat3/4	4G	LTE-Advanced update expected to offer peak rates up to 1 Gbit/s fixed speeds and 100 Mb/s to mobile users.
				150 Cat4	75 Cat5		
				300 Cat5	(in 20 MHz FDD)[31]		
				(in 20 MHz FDD)[31]			
HSPA+	3GPP	Used in 4G	CDMA/FDD	21	5.8	4G	HSPA+ is widely deployed. Revision 11 of the 3GPP states that HSPA+ is expected to have a throughput capacity of 672 Mbps.
			MIMO	42	11.5		
				84	22		
				672	168		

Table 26: Comparison of High Speed Internet Access Technologies (source: ITU)

Interconnection Guidelines

It is essential for competition to develop to allow the subscribers of one network to communicate with those of another. Essentially, without interconnection the market would develop as discrete islands with each operator having a de facto monopoly, and therefore the economic benefits associated with market expansion and liberalisation would certainly be limited.

An interconnection regime, therefore, should provide an open environment in which competition and consumer choice can flourish. It should - if implemented and enforced effectively - prevent the abuse of market position by those larger carriers designated as having Significant Market Power (SMP). It should provide both clarity and certainty to all operators with respect to the technical and commercial arrangements by which two networks communicate. Finally, a clearly articulated and implemented regime will have all of the necessary processes and structure to allow new entrants to make informed and appropriate investment decisions.

From a telecommunications standpoint, a particular prerequisite for market competition is the availability of effective interconnection, i.e. the ability of network operators and service providers to gain access to others' networks in order to allow the users of one supplier to communicate with users of another, or to access services provided by another supplier. Conversely, such a commitment raises important questions for those providing access, not least with regard to costs of provision, network and commercial security, requiring the implementation of a governing framework taking into account the interests of all parties.

In view of the aforementioned, PURA prepared an Interconnection Guidelines for the communication service providers that sets an overarching objective of ensuring interconnection with a major supplier at any technically feasible point in the network. Such interconnection must be provided:

- under non-discriminatory terms, conditions (including service quality and technical standards and specifications) and rates no less favorable than those provided for its own like services or those of subsidiaries, affiliates or other non-affiliated service suppliers;

- in a timely fashion, on terms, conditions and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and

- upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.

These Guidelines sets out procedures and terms applicable for interconnection to a major supplier in the form of a Reference Interconnection Offer (RIO). In the case of dispute over the application of such terms, either during the course of seeking interconnection services or during their provision, the Guidelines also prescribes that interconnecting operators should have recourse to a formal dispute resolution mechanism, administered by the Authority or other independent domestic body. In this regard, the Authority conducted a 3 day workshop on **Dispute and Conflict Resolution** to 28 participants from the telecommunications, ISP, broadcasters and various government ministries at the Kairaba Hotel.

Guidelines for Deploying New Technology

We are in the midst of a revolution within the information communications industry. The combined effects of technological advancements and the liberalization of the world's communications markets have led to major growth in the number of operators providing services, and the range and quality of services offered.

For services operators these are challenging times. The rapidly changing marketplace means that the time a company has available to design, launch and market new services with new technologies is ever reducing.

Any reduction in the time from the 'drawing board' to the service being available means both a reduction in costs and that vital revenue is received sooner.

In view of the aforementioned, PURA prepared Guidelines for Deploying new Technologies for the communication service providers that sets an overarching objective to ensure that the Authority is well informed and does the necessary due diligence prior to the deployment of new technologies. These Guidelines have the following objectives:

- To ensure operators roll out their products and services to customers without delay;
- To enable the Authority to do due diligence prior to roll out;
- To enable the Authority to analyse technical specification;
- To promote innovation in deploying products and services to customers;
- To enable the Authority to have prior information of products and services to customers;
- To enable the Authority to have the relevant data to deal with complaints or concerns raised by customers and stakeholders;
- To enable the Authority to plan and avail resources (numbers, frequencies, signalling codes, etc) in advance;
- Ensuring the protection and promotion of the interests of consumers against unfair practices including but not limited to matters relating to the availability and quality of communications services, equipment and facilities;
- Making information available to help with informed customer choice of services and Licensees;
- Improving the operation and performance of interconnected networks;
- Assisting the development of related telecommunications markets.

Next Generation Networks

A key differentiation between legacy and Next Generation Networks (NGN) is the type of switching used. Legacy networks use circuit switching optimized for voice communications, whereby the user pays for the time the circuit is maintained. NGNs use packet switching, whereby the user pays for the amount of information which is carried.

The growing demand for ICTs for new multimedia services and the resulting expansion of digital traffic is leading the telecommunications industry towards the convergence and optimization of traditional networks. The goal is the coming together of existing networks (fixed, mobile, Internet, broadcasting, etc) into a unitary network architecture which is termed NGN. This emerging technology is a packet-based network able to make use of multiple broadband technologies, providing telecommunication services to users, with independence of service-related functions from transport technologies.

GAMTEL provided details to the Authority of its NGN project that shall replace their legacy fixed line switches and requested some resources. The Authority did a due diligence and provided the requested resources and encouraged GAMTEL to not only expedite this noble project but endeavour to expand its services in the rural areas.

Rapid Growth in Mobile Penetration

The growth of mobile telecommunications has played a transformative role within the African continent. According to ITU, in 2011 an estimated 53% of Africa's population had a mobile cellular telephone subscription. There is a plethora of new services, applications and innovation that use this mobile technology.

The Gambia was one of the first African countries to liberalise its telecommunications which now comprises of one fixed line operator, four mobile communications service providers and four traditional ISPs.

The Gambia's mobile telecommunications sector has reached 1.3 million mobile cellular subscriptions. This growth is likely to continue as coverage is extended to reach more geographic areas and user adoption continues to increase.

ITU data further suggests that mobile penetration reached 84.4% in 2011 compared with a fixed line penetration of 1.54%. Industry sources predict that mobile penetration will rise to over 90% by 2014. The Gambia can boast of achieving this target in this current year of review considering that our penetration rate over 90%. However, it is important to note that Dual SIM (Subscriber Identity Modules) mobile phones, for which one person subscribes to more than one operator, are very popular for extending coverage while roaming, which means that the number of separate subscribers will in practice be significantly lower than the quoted percentage of the population. The census to be conducted by the Gambia Bureau of Statistics (GBOS) shall provide a basis of the number of people having multiple phones.

While mobile network coverage is not uniform across The Gambia, areas that lack coverage are typically those with small population centers, which cannot economically support the installation of new cell site/ base station transceivers (BTS). While mobile network coverage is not geographically uniform, neither is the available technology platform. A detailed breakdown of the technology platform for The Gambia's individual operators is reflected in Table 27.

	Technology Platform						
	2G	2.5G	2.75G (GPRS)	3G	4G	Fixed	Comments
GAMTEL				X		X	
GAMCEL	X	X					3G license issued and deployment in progress
AFRICELL	X	X		X			
COMIUM	X	X	X				3G license issued
QCELL	X	X		X	X		4G technology is for data only

Table 27: The Gambia network operators by technology (2012)

The data in Table 26 suggests that The Gambia's mobile networks are, at present, predominantly 2nd Generation GSM technology (2G), which does not provide data connectivity. This denotes a continuing requirement for voice and SMS based services and applications, and means that more advanced services and applications that rely on mobile broadband will not be capable of widespread access until 3G networks become more widely adopted. The 3G services offered by AFRICELL and QCELL are mainly in the Greater Banjul Area, Farafenni, Soma and Basse

The Arrival of the first Submarine Cable to The Gambia

Africa was largely by-passed during the 'bandwidth explosion' of the mid 1990's when most of the deployment of new submarine cable capacity were either Transatlantic or between Europe and Asia. However, between 2009 and 2010, large parts of Africa gained access to the international fibre bandwidth for the first time via submarine cables.

As a result, there was great progress in International Internet connectivity and many African countries have doubled or tripled their International bandwidth capacity some have even witnessed a tenfold increase..

The Gambia was amongst few countries in the region not directly connected to the global network of submarine fibre cable infrastructure for broadband development. Earlier, the country lost the opportunity to participate in SAT-3, then the only existing submarine cable system serving West Africa. Therefore, connectivity between The Gambia and the outside world relied , exclusively on expensive satellite with limited availability of high capacity bandwidth until recently through terrestrial fibre connectivity to access SONATEL's SAT-3 in Dakar, Senegal

As a consequence, the Government of The Gambia saw the need for such resource to improve, modernize and expand its communications infrastructure. In pursuit of this, the Government seized the opportunity of joining the African Coast to Europe (ACE) project with funding from the World Bank.

Consequently, The Gambia hosted the launch of one of the most ambitious telecommunications projects in Africa. On 19th December, 2012, up to 500 international policy makers, regulators, operators, vendors and service providers from across the world converged in The Gambia for the historic launch of the Africa Coast to Europe (ACE) submarine cable. The hosting of this event went through a competitive process amongst the 23 ACE member countries and The Gambia was privileged and honoured to host the event which was officially inaugurated by the Permanent Secretary, Ministry of Information, and Communications Infrastructure as can be seen in Figure 27 - 28.

Figure 27: The Vice President and other dignitaries being entertained during the ACE opening ceremony

Figure 28: Permanent Secretary of MOICI, officially inaugurating the ACE cable

ACE deployed the latest fibre optic technology which offers better high speed broadband internet quality and gives us the opportunity to access the international broadband networks at a lower costs. Furthermore, it will increase high speed internet access in Africa, thus reducing the digital divide and trigger social and economic development.

The available bandwidth for The Gambia on the ACE cable as can be seen in Table 28 is 10Gbits. Considering that the total bandwidth used in The Gambia on the fibre link to the SAT3 cable in Senegal and satellite was only 450Mbs, the capacity on ACE has increased the available capacity by over 1600%.

Year	Available bandwidth on SAT3 + Satellite	Used bandwidth on SAT3 + Satellite	Available Bandwidth on the ACE cable	Variance on available capacity
2011	622 Mbs	450 Mbs	N/A	N/A
2012	622 Mbs	450 Mbs	10Gbs	1600%

Table 28: Bandwidth availability in The Gambia

In this regard, The Gambia will experience abundant supply of bandwidth which will contribute in no small measure to the development of vibrant bandwidth-based businesses, as well as other highly electronic based applications.

As an enabling agency, the Authority shall continue to work with its sector Ministry, and other strategic stakeholders, to enhance the attractiveness of The Gambia as a destination for ICT investment. Furthermore, the Authority will continue to work with the stakeholders to ensure that the operators upgrade their local networks infrastructures to be able to deploy broadband services to their customers. If this local infrastructure are not developed, customers would not realize high speed Internet that the abundant bandwidth on ACE project has brought.

Renewable Energy (RE) Regulatory Framework and Development:

This year was an interesting year for The Gambia and PURA in terms of RE development. PURA was central to these efforts and continued to play a leading role in RE promotion and development. PURA has recognised the potential for RE development in The Gambia as a cheaper and alternative source of power generation.

In partnership with the Ministry of energy, we actively participated in the development of the Electricity Strategy and also the new Regulatory Framework that saw the development of a draft Renewable Energy Law and standard PPA documents and Feed-in-Tariffs Rules and Model. PURA would be responsible for publishing the FIT and administering eligibility as well.

In February 2012, the Hon. Minister for Energy approved and signed the Licence for the 900kVA wind park in Tanji. Construction started in March 2012 and the plant was operation by August 2012. This was a clear indication of the competitive of the RE and also the speed at which RE plants can be erected. The RE potential is huge and we can save the country a lot of foreign exchange. The Tanji wind farm has now positions The Gambia as the leading country on RE on the continental West Africa.

Figure 29: One of the turbines in Tanji connected to the NAWEC grid.

Water Quality:

Quarterly Nationwide water quality tests on 82 water points comprising of boreholes, treatment plants, service taps and reservoir tanks are undertaken in collaboration with the DWR.

The main observations on the water quality parameters analyzed are as follows:

- Overall pH values were observed to be low in all test points. This however is a general phenomenon that characterized Gambia water. Hence the service provider was urged to improve their aeration process or the introduction of lime into the system.

- Residual chlorine was noticed to be low in some areas especially in the provincial services. However this was pointed out to the service provider and hence as of December 2012 all provincial stations had chlorine disinfection plants installed.

- No visible impurities, abnormal odour or taste were noticed on the tests done.

- Coli forms were noticed to be present in some of the test done, although they were within the acceptable limit, this however the standard and target is to have non present at all in the water. These were mainly noticed in the provincial services where the disinfection units were not functioning. With the installation of chlorine disinfecting plants it is envisaged that this occurrence will not happen in the coming year.

- High iron content up to 1.82 mg/l was noticed in water coming from the borehole at Bansang. This is naturally occurring phenomenon in the soil at Bansang. However upon processing the water through slow sand filtration the iron content is noticeably reduced to acceptable levels of about 0.13 mg/l on the distribution end.

In general it could be said that the water quality was good but improvements should be made in the disinfection units (chlorination system) so as to improve the residual chlorine values and hence help in the reduction of coli form presence in the water especially for the provincial services and also during the rainy season.

Efforts should be made to improve the overall pH value for the water as the tests indicated overall low pH values.

2012 GBA Water test results summary

PARAMETERS AND GUIDELINE VALUES															
		pH	Conductivity	TDS	Salinity	Total Coliform	Feacal Coliform	Residual Chlorine	Nitrate per nitrogen	Phosphate	Sulphate	Copper	Fluoride	Total Iron	Nitrite per nitrogen
Guideline values		*6.5 - 8.5*	*<1300µS/cm*	*<1000 mg/l*	*PPT*	*0/100ml*	*0/100ml*	*<0.35 mg/l*	10mg/l NO_3^-- N mg/l	3.5 mg/l PO_4^{-3} mg/l	250mg/l SO_4^{-2}mg/l	1.0mg/l CU^{+2} mg/l	1.50mg/l F^- mg/l	0.3 mg/l $Fe^{+2/3}$ mg/l	0.03mg/l NO_2^--N mg/l
Location	Sample points	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range
Banjul	7	4.14 - 5.46	56.10 - 123.30	23.10 - 60.10	0.0	0.0	0.0	0.11 - 0.37	1.97 - 2.36	0.02 - 0.36	0.00 - 4.00	0.00 - 0.11	0.01 - 0.36	0.00 - 0.04	0.000 - 0.004
Bakau	4	5.25 - 6.03	331.00 - 516.00	156.0 - 227.0	0.0 -0.2	0.0	0.0	0.04 - 0.25	4.32 - 4.55	0.00 - 0.02	1.00 - 3.00	0.00 - 0.10	0.01 - 0.31	0.00 - 0.02	0.002 - 0.009
Latirkunda	2	4.51 - 5.99	42.10 - 119.90	17.10 - 50.60	0.0	0.0	0.0	0.09 - 0.31	0.01 - 0.02	0.00 - 0.61	0.00	0.00	0.02 - 0.22	0.00 - 0.04	0.000
Pipeline	1	4.71 - 6.11	51.80 - 52.50	22.20 - 24.00	0.0	0.0	0.0	0.23 - 0.33	0.00 - 0.40	0.00 - 0.47	0.00	0.00	0.04 - 0.31	0.00 - 0.01	0.000
Jeshwang	4	4.81 - 5.75	62.80 - 109.60	26.10 - 47.00	0.0	0.0	0.0	0.01 - 0.42	0.00 - 0.50	0.00 - 0.76	0.00 - 4.00	0.00	0.01 - 0.27	0.00 - 0.02	0.000
Kanifing	2	4.25 - 5.38	99.10 - 113.50	46.00 - 50.70	0.0	0.0	0.0	0.01 - 0.31	4.35 - 4.60	0.01 - 0.41	2.00 - 4.00	0.00 - 0.01	0.01 - 0.18	0.00 - 0.01	0.005 - 0.024
Tallinding	1	5.40 - 6.00	44.80 - 47.90	19.00 - 21.50	0.0	0.0	0.0	0.11 - 0.28	0.23 - 0.39	0.00 - 0.39	1.00 2.00	0.00	0.10 - 0.13	0.00 - 0.01	0.001 - 0.002
Bakoteh	3	4.38 - 6.01	31.00 - 112.80	12.70 - 51.00	0.0	0.0	0.0	0.01 - 0.59	0.22 - 1.28	0.00 - 0.01	0.00 - 2.00	0.00	0.01 - 0.25	0.00 - 0.01	0.000 - 0.021
Kololi	2	4.31 - 5.55	32.30 - 90.50	14.00 - 35.70	0.0	0.0	0.0	0.08 - 0.48	0.31 - 0.48	0.00 - 0.01	0.00 - 2.00	0.00 - 0.01	0.00 - 0.33	0.00	0.001 - 0.014
Kotu	1	5.52 - 6.03	29.00 - 32.30	13.10 - 13.80	0.0	0.0	0.0	0.49 - 0.55	0.28 - 0.35	0.00	0.00	0.00 - 0.03	0.05 - 0.27	0.00	0.001 - 0.040
Serrekunda	2	4.53 - 4.79	115.50 - 123.50	50.60 - 55.70	0.0 - 0.1	0.0	0.0	0.10 - 0.58	2.40 - 3.46	0.00 - 0.03	1.00 - 2.00	0.00 - 0.01	0.00 - 0.32	0.02 - 0.04	0.002 - 0.023
FajiKunda	1	4.44 - 5.35	41.30 - 46.70	18.10 - 21.80	0.0	0.0	0.0	0.18 - 0.46	0.49 - 0.54	0.00 - 0.01	0.00 - 1.00	0.00 - 0.01	0.01 - 0.30	0.07 - 0.11	0.007 - 0.009
Latirkunda Sabiji	1	5.49 - 6.05	34.20 - 40.40	15.50 - 17.30	0.0	0.0	0.0	0.37 - 0.48	0.09 - 0.18	0.00	0.00	0.00 - 0.02	0.00 - 0.05	0.00 - 0.01	0.001 - 0.006
Bundung	1	4.61 - 5.76	38.20 - 244.00	17.40 - 107.60	0.0 - 0.1	0.0	0.0	0.00 - 0.43	1.24 - 2.44	0.00 - 0.14	1.00 - 2.00	0.03 - 0.08	0.03 - 0.22	0.02 - 0.06	0.001 - 0.012
Sukuta	3	5.50 - 6.39	31.10 - 31.80	13.10 - 13.60	0.0	0.0	0.0	0.31 - 0.64	0.18 - 0.54	0.00 -0.05	0.00 - 2.00	0.00 - 0.06	0.00 - 0.36	0.00 - 0.12	0.000 - 0.004
Yundum	3	4.30 - 5.80	35.80 - 94.40	15.50 - 41.00	0.0	0.0	0.0	0.00 - 0.26	0.15 - 0.59	0.00 - 0.06	0.00 - 2.00	0.00 - 1.00	0.00 - 0.39	0.00 - 0.02	0.000 - 0.005
Brikama	5	4.60 - 6.32	42.90 - 83.30	18.90 - 36.60	0.0	0.0	0.0	0.05 - 0.43	0.31 - 1.76	0.01 - 0.08	0.00 - 3.00	0.00 - 0.02	0.00 - 0.58	0.00 - 0.23	0.001 - 0.006
Banjulinding	2	4.20 - 5.40	40.10 - 42.50	17.20 - 18.30	0.0	0.0	0.0	0.14 - 0.31	0.70 - 0.80	0.01 - 0.03	1.00 - 2.00	0.00 - 0.01	0.00 - 0.29	0.00 - 0.02	0.002 - 0.007
Lamin	2	3.50 - 5.16	29.50 - 40.00	12.20 - 17.90	0.0	0.0	0.0	0.01 - 0.24	1.00 - 1.55	0.01 - 0.08	1.00 - 2.00	0.00 - 0.01	0.04 - 0.41	0.00 - 0.04	0.001 - 0.014

Table 29: Showing water test results for Major settlements in the GBA, 2012

Provincial Water test results

PARAMETERS AND GUIDELINE VALUES															
		pH	Conductivity	TDS	Salinity	Total Coliform	Feacal Coliform	Residual Chlorine	Nitrate per nitrogen	Phosphate	Sulphate	Copper	Fluoride	Total Iron	Nitrite per nitrogen
Guideline values		*6.5 - 8.5*	*<1300µS/cm*	*<1000 mg/l*	*PPT*	*0/100ml*	*0/100ml*	*<0.35 mg/l*	10mg/l NO_3^-- N mg/l	3.5 mg/l PO_4^{-3} mg/l	250mg/l SO_4^{-2}mg/l	1.0mg/l CU^{+2} mg/l	1.50mg/l F^- mg/l	0.3 mg/l $Fe^{+2/3}$ mg/l	0.03mg/l NO_2^--N mg/l
Location	Sample points	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range	Results Range
Barra	1	4.85 - 5.11	58.10 - 60.30	24.30 - 27.50	0.0	0 - 28	0.0	0.00	0.59 - 0.74	0.00	3.00 - 4.00	0.01 - 0.09	0.15 - 0.22	0.02 - 0.06	0.002 - 0.005
Essau	1	4.95 - 5.55	54.10 - 54.10	22.30 - 26.80	0.0	0 - 32	0.0	0.00	0.59 - 0.63	0.00	2.00 - 3.00	0.00 - 0.01	0.02 - 0.04	0.07 - 0.09	0.001 - 0.003
Mayamba	1	4.71 - 4.90	59.00 - 60.10	26.10 - 28.20	0.0	0 - 4	0.0	0.00	0.50 - 0.60	0.00 - 0.01	0.00 - 4.00	0.00 - 0.01	0.03 - 0.06	0.02 - 0.05	0.001 - 0.002
Kanuma	2	4.95 - 5.00	53.10 - 60.00	23.10 29.50	0.0	0 - 24	0.0	0.00	0.52 - 0.59	0.00 - 0.01	0.00 - 3.00	0.00 - 0.02	0.02 -0.10	0.01 - 0.06	0.001 - 0.006
Kerewan	3	4.75 - 5.04	24.10 - 30.80	13.10 - 17.50	0.0	0 - 32	0.0	0.00	0.32 - 0.80	0.00 - 0.01	0.00 - 3.00	0.00 - 0.01	0.05 - 0.17	0.01 - 0.16	0.001 - 0.014
Farafenni	7	4.06 - 4.80	46.50 - 58.30	20.10 - 26.90	0.0	0 - 22	0.0	0.00 - 0.44	0.14 - 0.63	0.00 - 0.14	0.00 - 3.00	0.01 - 0.04	0.01 - 0.31	0.00 - 0.02	0.001 - 0.016
Janjangbureh	3	5.75 - 6.35	200.00 - 245.00	76.10 - 90.10	0.0 - 0.1	8 - 20	0.0	0.00	0.02 - 0.60	0.01 - 0.02	2.00 - 6.00	0.02 - 0.14	0.15 - 0.40	0.01 - 0.14	0.000 - 0.004
Bansang	5	5.12 - 6.32	84.10 - 120.60	35.90 - 51.80	0.0	0 - 44	0.0	0.00 - 0.44	0.13 - 1.74	0.01 - 0.26	2.00 - 8.00	0.00 - 0.22	0.05 - 0.51	0.13 - 1.82	0.001 - 0.016
Basse	5	3.63 - 5.03	20.10 - 30.10	8.30 - 11.30	0.0	0	0.0	0.09 -0.92	0.12 - 0.57	0.01 - 0.13	0.00 - 4.00	0.00	0.03 - 0.20	0.01 - 0.10	0.000 - 0.013
Mansankonko	2	4.00 - 5.04	49.60 - 58.50	21.10 - 25.70	0.0	16 - 20	0.0	0.00	0.55 - 0.74	0.01 - 0.06	0.00 - 2.00	0.08 - 0.12	0.01 - 0.12	0.00 - 0.09	0.003 - 0.032
Pakalinding	1	4.20 - 5.11	51.00 - 60.00	24.20 - 30.00	0.0	0 - 8	0.0	0.00	0.24 - 1.02	0.02 - 0.24	2.00 - 5.00	0.01 - 0.03	0.020 - 0.26	0.01 - 0.02	0.001 - 0.004
Soma	4	4.02 - 5.09	46.80 - 59.40	20.70 - 24.70	0.0	4 - 28	0.0	0.00	0.12 - 0.84	0.00 - 0.10	0.00 - 3.00	0.00 - 0.01	0.02 - 0.32	0.01 - 0.06	0.002 - 0.012

Table 30: Showing water test results for major settlements in the Provinces, 2012

Provincial Water Services:

NAWEC continues to serve seven provincial centers with water. Through EDF support the leaking overhead tanks at Mansakonko, Farafenni and Bansang were repaired which greatly reduced water losses in these areas. In a similar initiative through the EDF, additional boreholes were drilled and commissioned in the following areas:

- Barra to replace collapsed borehole
- Kerewan, relocating water supply source to Saba so as to avoid the saline water intrusion in the borehole at Kerewan station.
- Basse to replace the collapsed borehole Number 1.

Poor disinfection has been noticed in provincial centers thus resulting in the presence of Total Coliform in tests especially during the rainy season. These concerns were duly communicated to the service provider and in the last quarter, all centers were provided with running chlorination plants to disinfect the water.

Provincial Water Storage Capacities:

Settlement	Water Tank Capacity (m^3)
Barra/Essau	600
Juffureh	400
Mansakonko	300
Farafenni	800
Bansang	600
Janjangbureh	300
Basse	600

Table 31: Tank Capacity by LGA

Water And Sewerage Facilities:

During the year, NAWEC facilities were visited to evaluate and monitor their basic status in order to assess quality and monitor quality of service parameters.

Tours were conducted in both the GBA and Provinces. During which, the following improvements were noticed:

- Water leakages on tanks have now been repaired, through the EDF fund, except for Basse and Juffureh. This marks a great improvement as compared to the previous year wherein almost all the provincial tanks were profusely leaking. With this intervention, it is envisaged that there will be a great reduction in the provincial water loss.

- Disinfection systems using chlorine gas were installed in the last quarter for the Provincial stations. This improve the water quality wherein Coli-form was noticed to thrive in the waters that were not disinfected.

- The work on the Gunjur and Kotu ring mains will help increase access and availability to the surrounding communities within these areas.

- More improvement must be done on the following:

  - Ensure disinfection units are in proper working order.
  - Improved security systems for the boreholes.
  - Provision of mobility for the works.
  - Provision of chlorine test kit for pump attendants.
  - Improvement on tools and safety gear for the personnel.
  - Replacement of faulty distribution meters so as to have a more accurate data on withdrawals and distributions and hence monitor losses.
  - Improve on staff capacity building and training.
  - Introduce service charges to Septic tanker trucks using the Kotu Sewage Pond so as to generate income for the pond upkeep.

Revised PURA - DWR MOU

The collaboration between PURA and DWR on water quality monitoring has been very successful in ensuring that NAWEC delivers clean water to its customers. PURA facilitates the DWR water lab with reagents and other logistical support to undertake water quality test as previously entered in an MoU.

To facilitate procurement of the required lab materials for effective water quality tests, it was deemed prudent to revise the existing MoU as follows:

- PURA would provide DWR with the requested sum to undertake the purchase based on the availability of funds.

- DWR is to provide PURA with documentary evidence of the procurement process, quotes and proof of purchases.

The MOU was thus revised and signed by the Director of Water Resources and PURA Director General on 30th August 2012 at the DWR conference room.

In fulfilling its contribution, PURA disbursed to the DWR the sum of three hundred thousand Dalasi (D300,000) to procure reagents for the water lab in December 2012.

In addition, PURA facilities the logistical support to the lab to undertake nationwide water quality tests on NAWEC water supplies on a quarterly basis. We anticipate that further support would be accorded to the DWR in subsequent years to enhance the lab and the water quality testing.

Figure 30: Director DWR and PURA DG Signing revised MOU on water quality testing

PART VII:

OUTLOOK FOR 2013

Outlook for Information and Communications Sector

1. Consultancy to develop International Gateway Licence for issuance to individual members of Gambia Submarine Cable Company (GSC)

   To complement WARCIP, the Government o f The Gambia secured a loan from the Islamic Development Bank to provide a national backbone infrastructure and also interconnect with neighbouring countries as part of the ECOWAN Wide Area Network (ECOWAN)

   The grant is intended for a number of consultancies which also includes the consultancy pertaining to the development of an International Gateway Licence.

   As such it is the Authority's intention to re- engage the services of Mr Richard Keck, a Regulatory Law Expert, to develop the said licence. Mr Keck is the same consultant who had previously prepared the operational licence document issued to GSC.

   The Objectives of the consultancy will include the following:

   a) To assess the current licensing framework for the Information and Communications Sector in accordance with the Information and Communications Act 2009 (IC Act 2009).

   b) To propose a draft International Gateway Licence in line with the IC Act 2009 and the current licensing framework.

   It is anticipated that the work of the consultant will also be an opportunity to build upon the capacity of the PURA staff.

2. Finalisation of Licensing Framework For Internet Service Providers (ISP)

   The conclusion of the above mentioned licensing framework will be followed by the issuance of five year term operational licences to ISPs in The Gambia.

3. Finalisation of Licensing Framework for GSM Operators

   The Authority, in consultation with MOICI and other relevant stakeholders including the GSM Operators are working tirelessly to conclude the licensing framework for GSM operators, which is anticipated to be completed 2013 ending

Internet Exchange Points

The Internet has become an essential tool for communication, commerce, and development in an increasingly globalized world. Governments around the world have given high priority to the development of their national Internet infrastructure and to achieving higher levels of Internet penetration among their populations.

At the moment, developing countries wishing to connect to the global Internet backbone must pay for the full costs of the international leased line to the country providing the hub. More than 90 per cent of international IP connectivity passes through North America. In view of the aforementioned, the Authority shall work with MOICI and other stakeholders to have an Internet Exchange Point (IXP) in the country.

IXPs enable local networks to efficiently exchange information at a common point within a country rather than needing to exchange local Internet traffic overseas.

Outlook for Electricity and Water Services

PURA would continue to work closely with the Ministry of Energy to develop a new framework for Renewable Energy development in The Gambia. This would include;

1. A new Renewable Energy law
2. A standard PPA for Renewable Energy technologies
3. A Feed-in-Tariff methodology and model

Access to the NAWEC water service network and quality of service would greatly improve following the completion of the projects mentioned in this report mainly the Gunjur Water supply network and Kotu ring project.

PART VIII:

FINANCIAL REVIEW

PURA's main source of income is regulatory fees charged to regulated utilities. The amount invoiced and collected from operators as regulatory fees is based on the annual budget of PURA, which is approved by the Board of Directors. The amount collectible as regulatory fees is pegged at a maximum of 1.5% of the operators' turnover, which is one of the lowest rates charged by regulatory authorities in Africa. The ceiling was determined to ensure that operators do not incur exorbitant regulatory charges which are passed on to consumers.

In the year 2012, 1.05% of operators' turnover was invoiced unlike the previous 1.2% of turnover for the Telecoms operators and a fixed amount of **D50,000.00** per annum for Internet Service Providers (ISPs) in the information and communications sector. For the energy sector the Authority since 2008 has decided that the regulatory fee invoice to NAWEC and GEG are fixed at **D4,000,000.00** and **D2,500,000.00** respectively per annum instead of the maximum amount chargeable of 1.5% of operator's annual turnover as stated in the 2006 Regulatory Fees Regulations of PURA.

These decisions were as a result of the Authority's belief in **supportive regulation** in the sectors by trying to moderate the cost of regulation for the benefit of the industries as a whole and also cognizant of the peculiarity of the energy sector, in our development process.

Further to the above regulatory support to the sectors in general, the management of the Authority over recent years has initiated series of engagements with the main defaulters GAMTEL, NAWEC and GEG, to encourage them in the settlement of their arrears as well their current invoices.

Despite these considerations and engagements, the payment of regulatory fees by GAMTEL, NAWEC and GEG has not been encouraging. Out of the amount of **D46.8 million** budgeted as regulatory fees income, only **D26.9 million** was collected, as shown in Table 32 below. Undoubtedly, the non compliance by GAMTEL, NAWEC and GEG has continued to hamper the implementation of some of PURA's regulatory activities in all the regulated sectors.

SOURCE OF FUNDS	BUDGET	ACTUAL PAID	AMOUNT OUTSTANDING
GAMTEL	14,654,945.00	4,750,000.00	9,904,945.00
AFRICELL	12,820,007.00	9,000,000.00	3,820,007.00
GAMCEL	7,995,015.00	7,291,375.95	703,639.05
COMIUM	3,076,574.00	2,692,002.25	384,571.75
QCELL	1,639,275.00	1,639,275.00	0.00
G.E.G	2,500,000.00	0.00	2,500,000.00
NETPAGE	50,000.00	50,000.00	0.00
NAWEC	4,000,000.00	1,500,000.00	2,500,000.00
UNIQUE SOLUTIONS	50,000.00	50,000.00	0.00
LANIX	50,000.00	0.00	50,000.00
TOTAL	**46,835,816.00**	**26,972,653.20**	**19,863,162.80**

Table 32: Budgeted vs. Actual Income in Dalasi for Regulatory Fees Invoiced for 2012

The status of regulatory fees payment is depicted in Table 32 above. Only one of the GSM operators and two of the ISPs have fully paid their regulatory fees invoiced for 2012 as at 31st December 2012, except **GAMTEL, AFRICELL, GAMCEL, COMIUM** and **LANIX** as illustrated above. **NAWEC** only paid **D1.5 million** leaving an outstanding balance of **D2.5 million** and **GEG** did not pay the **D2, 500,000.00** invoiced for 2012 regulatory fees.

APPENDIX:

2012 AUDITED FINANCIAL STATEMENTS

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
Annual Report and Accounts
For the year ended 31 December 2012

AA & CO.
CHARTERED CERTIFIED ACCOUNTANTS
1 INDEPENDENCE DRIVE
P.O BOX 396
BANJUL, THE GAMBIA

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PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)

General information

DIRECTORS

Chairman	Mr. Dodou Bammy Jagne
Member	Ms. Amie Joof
Member	Ebrima Cham
Director General	Mr. Abdoulie Jobe
Ex- Officio member	Permanent Secretary (MOFEA)
Company Secretary	Mr Kelepha Samba

REGISTERED OFFICE

94 Kairaba Avenue
KMC
P.O. BOX 4230 Bakau
The Gambia

AUDITORS

A.A & CO
Chartertified Certified Accountants
1 Independence Drive
Banjul
The Gambia

BANKERS

Trust Bank Limited
3-4 Ecowas Avenue
Banjul
The Gambia

Guaranty Trust Bank (Gambia) Limited
56 Kairaba Avenue
KSMD
The Gambia

Ecobank (Gambia) Limited
42 Kairaba Avenue
KSMD
The Gambia

Access Bank (Gambia) Limited
47 Kairaba Avenue
KSMD The Gambia

Reliance Financial Services Limited
Kairaba Avenue
KMC The Gambia

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)

Director's report

For the year ended 31 December 2012

The directors present their report for and accounts for the year ended 31 December 2012.

Statement of directors' responsibilities

Company Law requires the directors to prepare financial statements in accordance with the Companies Act for each financial year which give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period. In preparing those financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in existence.

The directors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Company and to enable them to ensure that the financial statements comply with the Companies Act 1955. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Principal activities

The principal activities are to provide guidelines on rates and fees for the provision of regulated public services, examine rates and fees chargeable and to protect the interest of consumers and of public utilities. PURA does monitor and enforce standards of performance by public utilities and to promote fair competition amongst them.

Changes in fixed assets

Significant movements in fixed assets are shown in the schedule provided in the notes.

Results and dividends for the year

The results for the year to 31 December 2012 are as set out in the attached financial statements.
Directors and their interests

The directors who held office are as described in the previous page. None of the directors who held office have any beneficial interest in the shares of the corporation.

Auditors

The Auditors, AA & Co Accountants, will continue in office in accordance with section 155 (2) of the companies Act 1955.

By order of the board

Chairman
Board of Directors

Date……..

Auditors' report

To the Members of Public Utilities Regulatory Authority (PURA)

We have audited the accounts set out on pages 6 to 13 which have been prepared under the historic cost convention as modified by the revaluation of certain fixed assets.

Respective responsibilities of directors and auditors

The directors of the company are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion on the financial statements presented by the director based on our audit and to report our opinion to you.

Basis of opinion

We conducted our audit in accordance with International Auditing. An audit includes examination, on a test basis, of the evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the directors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the company's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatements, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the company's affairs as at 31 December 2012 and of its loss for the period then ended and have been properly prepared in accordance with the Companies Act 1955 (revised).

A.A. & Co.
Chartered Certified Accountants
1 Independence Drive
Banjul, The Gambia

Date……..

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
BALANCE SHEET AS AT 31 DECEMBER 2012

	NOTES	2012 D	2012 D	2011 D
FIXED ASSETS	**11**		**4,282,514**	**6,868,024**
CURRENT ASSETS				
DEBTORS AND PREPAYMENTS	**4**	60,187,541		44,758,794
CASH AND BANK BALANCES	**5**	(52,544)		2,373,693
ECO BANK (G) LTD LOAN A/C		3,270,000		-
		63,404,997		**47,132,487**
CURRENT LIABILITIES				
CREDITORS & ACCRUALS	**6**	14,823,878		672,201
		14,823,878		**672,201**
WORKING CAPITAL			**48,581,119**	**46,460,286**
			52,863,633	**53,328,310**
FINANCED BY				
ACCUMULATED FUND	**7**		52,863,633	53,328,310
			52,863,633	**53,328,310**

DIRECTOR_____ DATE_____

DIRECTOR_____ DATE_____

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
INCOME AND EXPENDITURE STATEMENT
FOR THE YEAR ENDED 31 DECEMBER 2012

	NOTES	2012 D	2011 D
INCOME	2	**47,583,066**	**45,288,880**
AFTER CHARGING			
PERSONNEL COSTS	3	**11,697,940**	**9,532,476**
OTHER ADMINISTRATION EXPENSES		**33,032,683**	**21,629,547**
DEPRECIATION	11	**3,317,120**	**3,358,710**
EXCESS INCOME OVER EXPENDITURE		**(464,677)**	**10,768,147**
RESERVES B/F		53,328,310	42,560,163
PRIOR YEAR ADJUSTMENTS		-	-
RESERVES C/F		**52,863,633**	**53,328,310**

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
CASH FLOW STATEMENT
FOR THE YEAR ENDED 31 DECEMBER 2012

	NOTES	2012 D	2011 D
NET CASH FROM OPERATING ACTIVITIES	**8**	1,649,816	4,251,726
(Including Finance Charge)			
RETURN ON INVESTMENT AND			
SERVICING OF FINANCE			
FINANCE CHARGES		(74,443)	67,347
INVESTING ACTIVITIES			
ACQUISITION OF FIXED ASSETS	**11**	(731,610)	(1,399,301)
INVESTMENTS .			
FINANCING ACTIVITIES			
LONG TERM LOANS			
SHARE CAPITAL CONTRIBUTIONS			
INCREASE/(DECREASE) IN CASH			
AND CASH EQUIVALENT	**12**	**843,763**	**2,919,772**

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
NOTES TO THE ACCOUNTS
FOR THE YEAR ENDED 31 DECEMBER 2012

1 (A). ACCOUNTING POLICIES

The accounts have been prepared under the historic cost convention in accordance with applicable international Accounting Standards.

1 (B). DEPRECIATION POLICY

The depreciation is charged to write off the cost of the fixed assets over their estimated useful lives on a straight line basis. Full depreciation is charged in the year of acquisition and no charge in the year of disposal.

Vechicles	25%
Computers	25%
Furniture & fittings	20%
Others	20%

1 (C) TAXATION

The authority is exempt from taxation as a Government agency, thus no tax computation required.

1 (D) INCOME RECOGNITION

Income comprises of regulatory fees, contribution by the Gambia Government, external funding and any other income accruing on accounts. Revenue grants are recognised in the income statement on receipt. Capital grants are recognised in equity and released to the income statement to meet related costs.

1 (E) FOREIGN CURRENCY

TRANSACTIONS
Transactions in foreign currency are translated at the rates of exchange ruling at the date of transaction.

2a. REGULATORY FEES

INCOME	**2012** **D**	**2011** **D**
Gamtel Co. Ltd	14,654,945	15,805,615
Nawec Co. Ltd	4,000,000	4,000,000
Gamcel Co.Ltd	7,995,015	5,355,072
Africell Ltd	12,820,007	13,684,140
Comuim	3,076,574	2,437,584
G.E.G Ltd	2,500,000	2,500,000
Qcell	1,639,275	881,296
Net page Ltd	50,000	50,000
Linux	50,000	50,000
Unique Solutions	50,000	50,000
Connecxion Solutions	-	50,000
	46,835,816	**44,863,707**

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
NOTES TO THE ACCOUNTS
FOR THE YEAR ENDED 31 DECEMBER 2012

2b OTHER INCOME	2012 D	2011 D
Bank interests	21,494	13,339
Interest on staff loans	30,206	24,044
Application fees	20,000	37,500
Opretors' Contributions WARCIP	532,000	
Opretors' Contributions ITU Day	-	120,000
Other Income	143,550	230,290
Investment Income	-	-
	747,250	425,173
TOTAL INCOME	**47,583,066**	**45,288,880**

3. PERSONNEL COSTS	D	D
Wages and salaries	10,289,298	8,425,205
Social security and pension costs	1,408,642	1,107,271
	11,697,940	**9,532,476**

4. DEBTORS AND PREPAYMENTS	D	D
PREPAYMENTS	256,667	225,000
STAFF LOANS (PERSONAL)	642,994	964,089
STAFF LOANS (CAR)	8,597,707	1,858,555
REGULATORY FEES (see 4(b) break down)	50,690,173	41,711,150
	60,187,541	**44,758,794**

4 (b) Regulatory Fees

GEG	10,260,426	8,960,426
Nawec	16,878,755	16,378,755
Gamcel	703,639	
Gamtel	18,517,775	13,612,830
Comium	384,572	
Africell	3,820,007	2,684,140
Linux	75,000	25,000
Connexion Solutions	50,000	50,000
	50,690,173	**41,711,150**

5. CASH AND BANK BALANCES	**D**	**D**
TRUST BANK (G) LTD	161,752	587,763
ACCESS BANK (G) LTD	8,091	18,054
GT BANK (G) LTD	484,369	140,423
RELIANCE FINANCIAL SERVICES	10,734	10,449
ECO BANK (G) LTD	(717,490)	1,617,004
ECO BANK (G) LTD LOAN A/C	-	
	(52,544)	**2,373,692**

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)

NOTES TO THE ACCOUNTS
FOR THE YEAR ENDED 31 DECEMBER 2012

6. CREDITORS & ACCRUALS	2012 D	2011 D
WATRA MEMBERSHIP CONT.2010	525,000	468,000
AUDIT FEES	88,165	80,150
BANK LOAN-ECO BANK	13,888,889	-
PROVISION ON TELEPHONE BILLS	321,824	124,051
	14,823,878	**672,201**

7. ACCUMULATED FUND	D	D
OPENING BALANCE	53,328,310	42,560,163
SURPLUS FOR THE YEAR	(464,677)	10,768,147
PRIOR YEAR ADJUSTMENTS	-	-
BALANCE C/F	**52,863,633**	**53,328,310**

8. RECONCILIATION OF OPERATING PROFIT TO NET CASH

INFLOW FROM OPERATING ACTIVITIES

	D	D
OPERATING PROFIT/(LOSS)	(464,677)	10,768,147
DEPRECIATION CHARGES	3,317,120	3,358,710
(INCREASE)/DECREASE IN DEBTORS	(15,428,747)	(8,381,538)
INCREASE/(DECREASE) IN CREDITORS	14,151,677	(1,426,246)
NET CASH INFLOW FROM OPERATING ACTIVITIES	**1,575,373**	**4,319,073**

9. ANALYSIS OF CHANGES IN CASH AND CASH EQUIVALENTS DURING THE YEAR

	D	D
BALANCE AT 1 JANUARY	2,373,693	(546,079)
NET CASH INFLOW	843,763	2,919,772
BALANCE AT 31 DECEMBER	**3,217,456**	**2,373,693**

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)

10. DETAILED PROFIT AND LOSS ACCOUNT

FOR THE YEAR ENDED 31 DECEMBER 2012

	NOTES	2012 D	2012 D	2011 D
INCOME	**2**		47,583,066	38,190,695
			47,583,066	**38,190,695**
EXPENSES				
PERSONNEL COSTS	**3**	11,697,940		9,532,476
MEDICAL EXPENSES		410,619		508,052
STAFF TRAVEL INSURANCE		2,100		7,870
BANK CHARGES AND INTEREST		74,443		67,347
LOCAL TRAVEL EXPENSES		52,219		110,840
FUEL & LUBRICANTS		2,881,515		2,208,003
RENT / FACILITY MGT SERVICES		1,699,123		1,494,750
PROMOTIONAL ACTIVITIES		-		3,120
STATIONERY AND OFFICE SUPPLIES		930,504		750,204
RASCOM OPERATORS MEETING EXPENSES		-		53,200
ELECTRICITY AND WATER		847,605		678,863
SUBSCRIPTION-JOURNAL/ MAGAZINES		91,084		112,420
POSTAGES		15,197		8,599
COMMUNICATIONS		1,477,623		2,392,873
STAKEHOLDER RELATIONSHIP		436,608		547,589
REPAIRS & MAINTENANCE		371,896		575,506
CONSUMER OUTREACH PROGRAM		223,203		1,038,207

WORKSHOP / RETREAT (LOCAL)		248,622		409,303
OPERATORS CONT. WARCIP LAUNCHING EXP		402,000		
STAFF CAR SCHEME		8,575,000		565,000
CONSULTANCY		42,000		181,204
CONFERENCE & MEETINGS		2,582,650		3,500,000
VECHICLE INSURANCE / LICENSE		267,089		84,146
STAFF UNIFORM		31,025		33,210
CORPORATE SOCIAL RESPONSIBILITIES		1,219,185		1,027,578
AVERTISEMENT		322,052		624,730
BANK LOAN INTEREST CHARGES		3,182,648		
RELOCATION EXPENSES		-		7,990
OPERATORS ITU DAY EXPENSES		10,000		130,000
BOARD FEES		294,000		298,000
SIM CARD REGISTRATION PROJECT		3,214,786		
MEMBERSHIP CONTRIBUTIONS		582,469		741,127
AUDIT FEES		88,165		80,150
TRAVEL & TRAINING EXPENSES		2,457,253		3,389,666
DEPRECIATION	**11**	3,317,120		3,358,710
			48,047,743	**34,520,733**
SURPLUS FOR THE YEAR			**(464,677)**	**3,669,962**

PUBLIC UTILITIES REGULATORY AUTHORITY (PURA)
NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2012

11. FIXED ASSETS SCHEDULE

COST	VECHICLES D	COMPUTERS D	FURNITURE D	OTHER ASSETS D	TOTAL D
As at 1st January 2012	4,706,645	13,295,912	4,766,469	2,253,355	**25,022,381**
Additions	-	602,110	74,500	55,000	731,610
Disposals	1,186,645	-	46,334	-	**-**
As at 31st December, 2012	**5,893,290**	**13,898,022**	**4,887,303**	**2,308,355**	**25,753,991**
DEPRECIATION					
As at 1st January 2012	4,706,645	7,824,374	4,461,259	1,162,080	**18,154,357**
Charge for the year	-	2,728,426	322,556	266,138	**3,317,120**
Charged on Disposals	1,186,645		46,334		**-**
As at 31st December, 2012	**5,893,290**	**10,552,800**	**4,830,149**	**1,428,218**	**21,471,477**
NET BOOK VALUE					
As at 1st January 2012	**-**	**5,471,538**	**305,210**	**1,091,275**	**6,868,024**
As at 31st December, 2012	**-**	**3,345,222**	**57,154**	**880,137**	**4,282,514**

PERFORMANCE IMPROVEMENT OBSERVATION YEAR ENDED 31ST DECEMBER 2012

1. ACCOUNTING POLICY MANUAL

OBSERVATION

This observation was made last year and remains valid for the current year. PURA does not have any accounting policy and procedures manual in place, detailing the various policies and procedures that needed to be implemented as a guide to strong internal control system.

IMPLICATION

In the absence of proper accounting policy and procedures manual the adequacy, efficiency and effectiveness of strong internal control system will be undermined. This will result to unreliability and incorrectness of reporting in the financial statements.

RECOMMENDATION

It will be recommended to the management that, proper accounting policy and procedures manual is prepared and those policies and procedures contained therein to be implemented.

BENEFIT

The accounting policy and procedures manual will provide management with sufficient guidance and direction in dealing with all financial transactions. This will improve and strengthen the internal control system and the accuracy of reporting in the financial statement.

MANAGEMENT RESPONSE

An invitation for bids was placed on the local news papers in 2012, for the production of an accounting manual, but no response was received. PURA then contacted GPPA for possible advice, and we were advised to identify a reputable accounting firm who can do the work which PURA has done.

PURA has already identified DT Associates, and in the process of getting approval from GPPA for single sourcing for the services and award of contract.

Since the observation was first made, PURA developed stop-gap financial and operational procedures and guidelines, which it has been using to guide our work.

NOTES